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ROLE OF MENTAL HYGIENE INSTITUTIONS IN THE PREVENTION OF LATE NEUROSYPHILIS*

BY I. JAY BRIGHTMAN, M. D.

There can be no reasonable argument against the statement that preventive measures toward the control of disease states far outrank curative measures from the viewpoint of both the patient and the community. Preventive measures are simpler, more economical in time and money, entail less risk, and, if successful, offer a 100 per cent prognosis; whereas curative measures are limited in their efficacy by various factors such as the stages to which the disease has progressed, the intensity of the active disease process, and the physical response of the patient.

Not many forms of psychiatric disorders are completely preventable. However, inasmuch as syphilis is a preventable disease, syphilis of the central nervous system can, through man's painstaking effort, be made to disappear. An analogy may be made to the cardiovascular field where cardiovascular syphilis is the one type of heart disease which is entirely avoidable.

There are four stages in the management of syphilis at which such late complications as general paresis and tabes dorsalis may be prevented. First, there is the prevention of the infection in the first place. Second, there is early adequate treatment during the first year of the disease, with an attempt to obtain a biologic cure. Third, there is the immediate intensive treatment of a previously inadequately treated, and clinically asymptomatic case when the spinal fluid is discovered to show evidence of active syphilitic infection. Fourth and last, is the treatment offered when clinical manifestations appear, with the hope of inducing a remission or at least arresting the progress of the disease. The stages of prevention of infection and early treatment come within the domains of the division of syphilis control of the New York State Department of Health. The fourth stage, involving curative treatment is a matter for Mental Hygiene Department institutions. It is the

*Read at the Bimonthly Conference of the New York State Department of Mental Hygiene at Albany, February 21, 1945. A verbatim report of the discussion of this paper will be published in the Conference minutes in THE PSYCHIATRIC QUARTERLY SUPPLEMENT, Vol. 19, Part II, 1945.

third stage, the treatment of asymptomatic neurosyphilis which has not as yet been properly placed. In the larger cities there are some hospitals which will accept such patients for fever treatment. In the rural areas, however, and in those cities with small hospitals only, there are no facilities for fever treatment.

There are several reasons why the treatment of asymptomatic neurosyphilis should be accepted as a responsibility by the Mental Hygiene Department institutions. They serve the entire State and thus cover areas where other facilities are not available. Institutions which provide for the treatment of patients with clinical manifestations of late neurosyphilis already have the facilities and the trained personnel to administer the treatment necessary for these asymptomatic cases. It must be stressed that adequate treatment for asymptomatic neurosyphilis will prevent later admissions to the mental institutions for clinical manifestations of paresis which would involve a more prolonged period of hospitalization, more intensive treatment, a poorer prognosis and a greater risk to the patient, who is by now in a poorer physical state. Dattner quotes Nicol as stating that there should be no mortality at all in healthy individuals with asymptomatic neurosyphilis and that this has been proved by all statistical reports which show that the malaria mortality rate is lowest in the younger age groups and in less advanced cases of neurosyphilis.

The magnitude of the problem of neurosyphilis may be gained from a review of some figures on the subject. Stokes gives the cost of neurosyphilis in New York State in 1931 as $13,500,000. He also gives the cost of blindness from syphilis on a national scale as $10,000,000 a year. Syphilis is stated to be responsible for 10.4 per cent of all admissions to hospitals for mental illness and 3.9 per cent of the total patients in such hospitals. The proportion is higher in admissions than in total patients because of the short lives of those admitted for mental disorder due to syphilis. Marshall and Seiber state that 17.5 per cent of persons certified in England as blind between 1929 and 1935 were blind because of syphilis; but these figures may be too high, as they include all persons with positive Kahn tests. In an analysis of over 26,000 admissions to the Boston Psychopathic Hospital between 1912 and 1934 the cause of psychosis in approximately 2,500 syphilitic pa-

tients was as follows: 91.2 per cent to general paresis; 2.7 per cent to taboparesis; 5.6 per cent to meningovascular syphilis and 0.5 per cent to undifferentiated types.

Penicillin, which is proving so promising in the early stages of syphilis, may prove to be the treatment of choice in neurosyphilis, particularly in the asymptomatic type. The investigations conducted by Stokes have proved encouraging in this regard. However, this work still must withstand the tests of time and also of confirmation by others. Even if penicillin does live up to its indicated efficiency, hospitalization will still be required for its administration. The drug must be given at three-hour intervals; it is quite clear that total dosages of as large as 4,000,000 units will be required for the conditions now under consideration; and this dosage will require from 10 to 15 days for administration. Investigations are now under way concerning the effectiveness of fever combined with penicillin, thus definitely putting the regime under the heading of a hospital procedure. However, until more is known about the efficacy of penicillin, one must rely upon the better established methods of treatment.

All authorities agree that patients showing the Group III, or paretic type, of spinal fluid should have the benefits of fever therapy as soon as possible. The Group III type of spinal fluid shows a strongly positive serologic reaction, a total protein of more than 50 mg. per cent with a comparable reaction for globulin, 50 or more cells per cubic millimeter, including both large and small lymphocytes and polymorphonuclear leucocytes, and a paretic type of colloidal gold reaction with first zone maximal. Thus, Moore states: "Prolonged experience has shown that in this group of patients routine treatment with the arsphenamines and heavy metals will not bring about serologic reversal either rapidly or slowly. Moreover, the ultimate prognosis in such patients is so much graver than where fluid changes are less intense that more drastic treatment measures should be resorted to from the start. A personal preference is for fever therapy either at once, as soon as the fluid changes are discovered, or as soon thereafter as the patient can arrange it." For the Group I and Group II types of spinal fluids, that is fluids showing minimal or moderate abnormalities, Moore suggests routine treatment followed by tryparsa-

mide if the former is unsuccessful, and the employment of fever therapy only in the resistant cases.

Dattner and Thomas agree with Moore in general but go further in their advocacy of fever therapy: "The presence of increased cells or protein in spinal fluids with positive Wassermann reactions is always a serious matter. In cases of over five years duration, however, the presence of increased cells or globulin is always an indication for fever therapy. The practice of waiting for fever treatment until the clinical evidences of parenchymatous neurosyphilis have appeared, in our opinion, is a mistake. Certainly, if fever is effective in far advanced cases of central nervous system syphilis, it should be even more effective in the so-called asymptomatic stages. As a matter of fact, this is actually true and has been proved by experience."

Moore states that he agrees with O'Leary as to the prophylactic value of induced malaria in preventing the development of paresis in patients with asymptomatic neurosyphilis (especially Group III). In his combined series of patients so treated, numbering about 200, not a single instance of the development of paresis was observed. It may be stated that while some patients with Group III type of spinal fluid may respond satisfactorily to routine treatment, the percentage of those doing so is believed to be low and such treatment is definitely unreliable. While the cost of fever treatment may appear high because it is condensed into a few weeks period, the total cost of treatment for the patient will be considerably less than that of prolonged routine therapy with its possibly unsuccessful results.

Regarding the administration of fever, both malaria therapy and fever induced by physical means, have been proved to be satisfactory. Each of these methods has its own advocates who praise it to the deprecation of the other method. Actually, it is difficult to compare results of the two methods, but the studies of Ewart and Ebaugh in 1941 are of some interest. Although their studies refer to patients showing clinical manifestations of paresis, the implications for asymptomatic neurosyphilis are obvious. Considering cases showing either complete remission or an improved status, malaria was satisfactory in mild paresis in 83.7 per cent and artificial fever was satisfactory in 77.8 per cent; in intermediate pa-

resis, malaria gave satisfactory results in 63.4 per cent and artificial fever in 69.8 per cent; only in severe paresis did artificial fever appear to have an advantage, as it gave satisfactory results in 28 per cent, contrasting with 16.9 per cent for malaria.

Actually the choice between malaria therapy and artificial fever depends upon the facilities available. Where fever cabinets are used, only one patient can be treated at a time for each box available, and a trained nurse must be in constant attendance for a full working day. Thus the number of patients who can be treated at one time will depend upon the number of cabinets available and the amount of trained personnel. This type of therapy is, therefore, not suitable where large numbers of patients must be handled at the same time. Dattner and Thomas state that this makes the extended use of artificial fever in large clinics almost prohibitive. They therefore favor the use of malaria as more suitable for large scale treatments.

It is the present writer's own impression that Dattner and Thomas oversimplify the care of patients under malaria by the following statements: "We have had as many as fifteen patients with malaria in the wards without any increase in the nursing staff. There is no necessity of giving each patient any special individual care." Of course, the amount of nursing care necessary depends upon the number of patients having paroxysms at one time rather than the total number under treatment. It would certainly seem necessary to assign special nurses to care for patients under malaria treatment when more than four such patients are on the ward. This is made quite clear by the routine advocated by Moore and followed by most workers, which includes complete bed rest for the patient at all times, the taking of temperature, pulse and respiratory readings every two hours while awake and not having paroxysms, and every 30 minutes from the start of the paroxysm until defervescence begins, frequent blood pressure readings, and readiness to administer such supportive measures as tepid sponges, codeine, aspirin, and sympathomimetic drugs as indicated. Rudolphs gives his three "sixes" as the levels which must be carefully watched and not exceeded during each paroxysm, 106° F. for the temperature, 160 for the pulse and 60 for the respirations.

Fever induced by intravenously injected typhoid vaccine has most often been found to yield results inferior to that induced by malaria and artificial fever. However, it is sometimes necessary to employ this method where facilities for artificial fever are not available, and where medical and nursing personnel are not on hand 24 hours a day to cover the paroxysms of malaria. In a situation where such conditions exist, Dr. Bernard I. Kaplan and the writer have treated cases of asymptomatic neurosyphilis with Group III spinal fluids with fever induced by typhoid vaccine and have obtained satisfactory results in most instances.

Regarding the period required for hospitalization during treatment with fever for asymptomatic neurosyphilis, Dattner and Thomas do not believe that more than eight bouts of fever, as manifested by malaria paroxysms, are necessary for satisfactory results. They stress the relative safety of malaria therapy in their experience and state that the greatest danger of accidents comes late in the course of treatment. The same may be said to be true for fever induced by other means. Courses of fever induced by artificial fever or typhoid vaccines may be interrupted at will if the patient's condition makes this necessary. The course of malaria may be temporarily interrupted by injections of thiobismol to give the patient a chance to improve his physical status. Most fever regimes will cover a hospitalization period of three to five weeks. Where malaria therapy is used, the hospitalization period may be curtailed by giving his injection with malarial parasites to the patient and having him stay on his job during the period of incubation. He must, of course, have facilities available for immediate hospitalization as soon as the signs of the first chill become manifest. Where tertian malaria is used the incubation period is usually from three to eight days. With quartan malaria the incubation period is usually from eight to 28 days, but may be longer, particularly in colored patients.

The importance of a complete medical workup prior to any type of fever therapy is an obvious necessity. Consultation by an internist is always the preferred procedure, but this may be done on the outside prior to the patient's admission. While it is desirable to institute fever therapy as early as possible, it is definitely ad-

vantageous to get the patient in the best possible physical condition if any curable disorders exist.

The original concept regarding a public health disease was that such a term referred only to a disease which was communicable and therefore made the patient a hazard to other persons and to the community at large. Recently, the idea of a public health disease has taken on a broader aspect and now covers any disorder which is preventable by community action. Thus, we have seen the creation of a cancer program with its emphasis on prevention, case finding and referral of patients to tumor clinics and hospitals. Also there has been the development of a child rehabilitation program whereby the State is interested not only in the child in the early infectious stage of acute poliomyelitis, but also in the postinfectious paralytic stage, and where it provides aid, if necessary, for his recovery with the least possible deformity. Also, the State has become interested in the child with rheumatic heart disease and takes steps to prevent recurrences of the active rheumatic state whereby the cardiac disability may be aggravated.

Thus the State's concern regarding syphilis involves not only the patient in the acute infectious stage who is capable of transmitting his disease to others, but also the person, no longer infectious but harboring an active process in the spinal fluid, a process which may ultimately lead to such syndromes as general paresis and tabes dorsalis. It is of definite interest to the State to prevent the development of central nervous system syphilis at any of the stages enumerated in the foregoing. Thus the treatment of asymptomatic neurosyphilis is of concern to both the Health Department and the Mental Hygiene Department from the viewpoint of the community.

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THE PSYCHOMETRIC PATTERN: II. MIGRAINE*

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Introduction

The literature is replete with studies concerning the patterning and scatter on psychometric tests evidenced by patients with relatively pronounced mental aberrations. Such studies are found to deal, among others, with schizophrenia,[1, 2, 3] the manic-depressive psychosis,[4] paresis,[5] and various senile conditions.[6] Conspicuous by their infrequent occurrence are related researches concerning the more benign psychiatric entities. To meet this shortcoming, the first of this series of papers, dealing with anxiety neurosis, was prepared.[7] This, the second, concerns the psychometric patterning encountered among patients with migraine headache, so diagnosed after thorough psychiatric appraisal.

That migraine has long been recognized in the annals of medicine is apparent from the historical account given by Jelliffe and White,[8] who indicate that the first description of this condition is credited to Aretaeus. Although precise statistics regarding incidence are unavailable, it has been suggested that 5 per cent is a moderate estimate, based on samples of the population.[9] The migrainous headache is held to be familial and about two to three times more common among women than men.[10] Among the many descriptions of the clinical picture, that presented by Wolff[11] is typical:

"The outstanding feature of the migraine syndrome is periodic headache, usually unilateral in onset, but which may become generalized. The headaches are associated with 'irritability' and nausea, and often with photophobia, vomiting, constipation, or diarrhea. Not infrequently the attacks are ushered in by scotomata, hemianopia, unilateral paresthesia, and speech disorders. The pain is commonly limited to the head, but it may include the face and even the neck. Often other members of the patient's family have similar headaches." (P. 1401.)

*The opinions and assertions contained in this paper are those of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

With regard to etiological factors, Wolff[12] contends that the headache of migraine is produced by distention of cranial arteries, particularly the branches of the external carotid. While common drugs have been found generally unsatisfactory in producing relief, there is evidence that the vasoconstrictor, ergotamine tartrate, is an effective agent in terminating or aborting the migraine attack.[13]

Notwithstanding the fact that much of the research on migraine has been directed toward discovering causative factors and determining therapeutic measures, investigations regarding the psychological factors associated with this condition have not been wholly neglected. In this respect, the study of Trowbridge, Cushman, Gray, and Moore[14] on the personality of patients with migraine is representative. Wolff's[15] emphasis on the psychological characteristics of migrainous patients is noteworthy, as are the contributions of Touraine and Draper.[16] Fromm-Reichmann's[17] interpretations are of interest from a psychoanalytical viewpoint. More recently, Ross and McNaughton[18] have investigated the Rorschach responses of patients with migraine and report significantly positive results.

Subjects

The subjects used in this research were 25 white males who, following complete psychiatric examination, were diagnosed as having migraine headache. The clinical picture in most cases was typical, with the following associated symptoms and characteristics reported in the order of their frequency: scotomata, nausea, necessity for bed rest, localized pain, vomiting, loss of time from employment, familial trend, no relief from ordinary medication, incapacitation, and vertigo. Each patient was examined by at least two psychiatrists, and there was general agreement regarding final diagnosis. Questionable histories were verified through social service investigation.

The age range of the patients was from 17 to 33, with a mean chronological age of 19.6 years. The average school grade completed was 10.1.

Procedure

During the course of his neuropsychiatric examination, each patient underwent examination on the complete Wechsler-Bellevue Adult Intelligence Scale[19] to determine mental status. This examination consists of a verbal scale, composed of five subtests (Information, Comprehension, Arithmetic, Digit Span, Similarities), and a performance scale, likewise containing five subtests (Picture Completion, Picture Arrangement, Object Assembly, Block Design, Digit-Symbol). Raw scores obtained from the various subtests are converted into "weighted" or standard scores, so that comparison of one subtest score with the others is possible. Construction of the test permits the derivation of both a verbal I. Q. and a performance I. Q., as well as a full scale I. Q. resulting from the combined performance on both parts of the examination.

The test data were analyzed with a view toward determining specific abilities or disabilities shown by the migrainous patients on the various subtests as well as toward discovering the consistencies of function which would result in characteristic trends of performance. This was accomplished by considering: (1) the number of patients deviating either positively or negatively on each subtest from their mean weighted scores on all subtests;* and (2) the magnitude of the median of these deviations.†

Results and Discussion

The distribution of full scale I. Q.'s in terms of mental level is presented in Table 1. Thirteen (52 per cent) patients obtained

Table 1. Distribution of I. Q. 's on the Full Scale

Classification	Number	Percentage
Superior	1	4
Bright normal	3	12
Average	13	52
Dull normal	4	16
Borderline	4	16

*Hence, a patient having a mean weighted score on all subtests of 13 who obtained a weighted score on the Picture Arrangement test of 10.5 would evidence a negative deviation of 2.5 weighted score points on this particular test.

†The median, rather than the mean of the deviations was utilized to counteract the effect of individual deviations of considerable magnitude.

ratings which place them within average limits, while four (16 per cent) had scores which classify them as bright normal or superior. Although none of the subjects was defective, four were classed as having borderline intelligence, and an equal number were considered dull normal.*

The range of I. Q.'s obtained on the verbal portion of the test was from 73 to 118, with a mean of 95.08. The standard deviation of the distribution was 12.37, while the median was 93. On the performance scale, the range was from 74 to 125, with a mean and median of 98.00. The standard deviation was 13.06. Analysis of I. Q.'s obtained on the full scale yielded a range of 70 to 123, a respective mean and median of 96.24 and 96, and a standard deviation of 13.80.

In so far as I. Q.'s are concerned, there was a tendency toward better function on the performance part of the scale. In 15 cases, the performance I. Q. was greater than the verbal, while in eight cases the verbal I. Q. exceeded that obtained on the performance tests. In the remaining two cases the quotients were identical. The difference between the mean verbal and performance I. Q.'s was 2.92 in favor of the performance scale; however, this difference is not statistically significant in terms of its standard error of 3.60 and critical ratio of .811.

In Table 2 are presented the mean weighted scores obtained by the migrainous patients on each of the subtests, together with the rank order of performance. This rank order, when correlated with

TABLE 2. MEAN WEIGHTED SCORES AND RANK ORDER PERFORMANCE ON THE SUBTESTS

Rank	Subtest	Mean weighted score
1	Object assembly	10.68
2	Block design	10.56
3	Picture completion	10.16
4	Comprehension	9.88
5	Digit-symbol	9.52
6	Similarities	9.24
7	Arithmetic	8.52
8	Information	8.36
9	Picture arrangement	8.20
10	Digit span	6.92

*These data are not presented as necessarily representing the distribution of intelligence among migrainous patients generally.

that found by Rabin[20] among normal subjects, yields a coefficient (rho) of + .536, P. E. = .16, which, although of doubtful significance, is larger than that found to exist between psychoneurotics and normals (rho = + .355, P. E. = .20),[7] but smaller than the coefficient of + .733, P. E. = .10 obtained when the rank order performance of neurotics and migrainous patients is correlated.

From Table 2 can be discerned only the rank order of performance in terms of mean weighted scores; the following account, however, yields considerably more information regarding the specific functioning of the migrainous patients on each of the subtests. In considering the number of instances where a subtest score deviated either positively or negatively from the mean subtest score, it should be noted that the size of the deviation was disregarded.

Information. The performance of the migrainous patients on this test was relatively poor. Seventeen (68 per cent) received scores which fell below their mean weighted scores, and eight (32 per cent) had scores in excess of their means. The median negative deviation was 1.00, while the median positive deviation (.50) was negligible.

Comprehension. Comparatively good performance was evidenced on the comprehension test. Seventeen (68 per cent) patients obtained positively deviating scores, with a median deviation of 1.60. The median deviation of the eight (32 per cent) who deviated negatively was 1.20.

Arithmetic. Relatively poor function was noted on this test, with 15 (60 per cent) of the patients obtaining scores of less than their means, and six (24 per cent) obtaining scores in excess of their means. The respective median positive and negative deviations were 1.55 and 1.70.

Digit Span. A marked negative trend was observed on the digit span test. Twenty (80 per cent) of the migrainous patients had subnormal scores with respect to their means, and the median deviation (3.10) was large. The five (20 per cent) who deviated positively had a median deviation of 1.40 points.

Similarities. Success on this test was unpredictable, with 10 (40 per cent) and 13 (52 per cent) of the subjects having positive and negative deviations respectively. The median positive devia-

tion (1.70) was somewhat larger than the median negative deviation of 1.00.

Picture Completion. Performance on this test was relatively good. Nineteen (76 per cent) of the patients had scores which were greater than their means, with a median positive deviation of 1.20 points. The median deviation of the five (20 per cent) who deviated negatively with respect to their means was negligible (.30).

Picture Arrangement. Generally poor performance was noted on the picture arrangement test. The median negative deviation was 1.60, with 19 patients (76 per cent) having subnormal scores. The median positive deviation of the six (24 per cent) who obtained scores greater than their means was 1.00.

Object Assembly. Function on this test was generally good, with 19 patients (76 per cent) deviating positively and six (24 per cent) deviating negatively. The median positive and negative deviations were 2.10 and 1.10 respectively.

Block Design. Performance on the block design test was comparatively good. Eighteen (72 per cent) of the subjects evidenced a median positive deviation of 1.90 points, while five (20 per cent) deviated negatively and had a median negative deviation of 1.30.

Digit-Symbol. Success on this test was unpredictable. Thirteen patients (52 per cent) obtained positive deviations and 10 (40 per cent) negative deviations. The median positive deviation was 1.10 points, and the median negative deviation (.40) was insignificant.

It will be observed from the data reported that the highest degree of performance was evidenced by the migrainous patients on the Object Assembly, Block Design, Picture Completion, and Comprehension tests. The first three of these are of the performance type, success in which is presumably dependent on visual motor coordination, perceptual discrimination, synthetic and analytical ability, and ability to differentiate essential from nonessential details. They are, intrinsically, tests which might be expected to appeal to, and be encountered most successfully by meticulous and painstaking individuals. The superior performance on the Object Assembly test, which Wechsler[19] describes as "of value in revealing the capacity to persist at a task" (P. 98), is of interest when

compared with the findings of Ross and McNaughton,[18] who note that persistence toward success is a personality feature brought out among migrainous patients on the Rorschach test. Noteworthy also in this regard is Wolff's empirical observation:[15] "The intensity with which these subjects attacked their work, their determination to 'see a thing through,' and their tireless persistence made interruptions extremely distressing. They often found it difficult to stop until a task was completed." (P. 2083.)

The poorest function was observed on the Digit Span, Picture Arrangement, Information, and Arithmetic subtests, three of which (Digit Span, Information, Arithmetic) are of the verbal type, and three of which (Digit Span, Arithmetic, Picture Arrangement) are those on which neurotics also do badly.[7] In view of the inferior performance on the Picture Arrangement test, it is of value to note Wechsler's assertion[19] regarding the poor performance of neurotics on this test: "The low score of the neurotic . . . . is frequently associated with lack of social alertness and reflects their common inability to deal with social situations." (P. 156.) As this applies to the present group, it is in keeping with the observation of Trowbridge, Cushman, Gray, and Moore[14] to the effect that migrainous patients were found "to be slightly maladjusted on the side of being timid and retiring with respect to social adjustment. . . ." (P. 516.)

With regard to psychometric performance, a relationship is apparent between neurotic and migrainous patients, not only as is evidenced by rank order performance on the various subtests of the Bellevue scale, but by abilities and disabilities displayed on tests sampling specific functions. The exact degree to which neurotic elements comprise the migraine syndrome is a matter of some discussion. For example, while Sadler[21] defines migraine as "a neurosis characterized by recurrent severe headaches . . ." (P. 1181), and Trowbridge, Cushman, Gray, and Moore[14] assert that "the migraine patient tends to be similar to the psychoneurotic as far as personality make-up is concerned . . ." (P. 516-517), but that "migraine must not be regarded as a psychoneurotic illness alone" (P. 513), Lennox[9] holds that "whether migraine . . . should be called a psychoneurosis or a disorder which is symbi-

otic with psychoneurosis is a fine distinction'' (P. 964). Certainly there are neurotic features to be found within the clinical picture of migraine; whether this is a relationship of cause or of effect cannot be definitely stated. It is probable that both conditions have a common host, with the specific syndrome which develops being dependent upon a play of environmental factors culminating in a personal-social imbalance which is more receptive to the cultivation of one disorder rather than of the other.

Summary

Twenty-five white males, ranging in age from 17 to 33 years with an average chronological age of 19.6 years, were tested by the complete Wechsler-Bellevue Adult Intelligence Scale in conjunction with neuropsychiatric examination. Each was examined by at least two psychiatrists, and the resulting diagnosis of migraine headache met with general agreement. Data obtained from the test results were analyzed with a view toward determining specific abilities or disabilities on the various subtests and discovering consistencies of function. This was accomplished by considering: (1) the number of patients deviating either positively or negatively on each subtest from their mean weighted scores on all subtests, and (2) the magnitude of the median of these deviations. The mean I. Q. obtained on the full scale was 96.24, $\sigma = 13.80$. The difference between the mean verbal and performance I. Q.'s was 2.92 in favor of the performance scale; however, this difference was not statistically significant. When the rank order performance of the migrainous patients on the various subtests was correlated with that of normal subjects, the coefficient was found to be rho $= +.536$, P. E. $= .16$. This is larger than that found to exist between neurotics and normals, but smaller than that obtained when the performances of neurotics and migrainous patients are correlated.

The best performance of the migrainous patients was evidenced on tests involving visual motor coordination, perceptual discrimination, synthetic and analytical ability, and ability to differentiate essential from nonessential details. Their relatively good performance on the Object Assembly test and relatively poor performance on the Picture Arrangement test were found to be of interest from a clinical standpoint when compared with the observations

of other investigators. A discussion of the relationship between the migraine syndrome and the psychoneuroses was presented.

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SHIGELLOSIS (BACILLARY DYSENTERY) AMONG INSTITUTIONAL INMATES*

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During the years of 1942 and 1943 a study of chemotherapy of Shigella infection was conducted in New York State mental hospitals and State schools. The observed infections occurred in seven institutions having a patient population of approximately 30,000. A total of 16 "outbreaks" (six due to Shigella paradysenteriae [Flexner], seven to Shigella sonnei, and three to Shigella schmitzei) were investigated as well as such sporadic cases as were found. In the study of these, 98,546 fecal cultures were examined of which 10,005 (10.1 per cent) were positive for Shigellae, as shown in Table 1. (During 1944 over 40,000 additional cultures were obtained.)

Two-thirds of an estimated 2,000 clinical cases were examined bacteriologically and 1,078 were proved positive for Shigellae; 2,253 additional infections in persons with no known recent diarrheal disorder were also identified. As successive infections with the same or different varieties of Shigellae occurred in some, the number of individuals known to have been infected was less than the 3,331 total of identified infections. This study as a whole provided an unusual opportunity to observe the problems of clinical and laboratory diagnosis, to examine epidemiological features, and to test methods of control.

The high standards of the institutions under the New York State Department of Mental Hygiene are widely acknowledged. The physical plants, many of them new, are provided with modern sanitary facilities. Administration and medical care are in the hands of experienced and competent workers. A relative lack of trained personnel and a degree of crowding greater than desired are temporary conditions imposed by war. The fact that shigellosis is a constantly recurring problem in institutions of this degree of excellence, drawing patients from a population in which the general incidence is very low, emphasizes the prevalence and the importance of these infections in institutional groups.

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TABLE 1. CLINICAL AND CULTURAL OBSERVATIONS IN THE STUDY OF SHIGELLA INFECTIONS IN NEW YORK STATE INSTITUTIONS, 1942 AND 1943

Year and institution	Total cultures					Reported cases culturally positive	Infections found				Cultures in initial surveys		
	Number done	Number positive									Number done	Positive	
		Flexner	Sonne	Schmitz	Total		Flexner	Sonne	Schmitz	Total		Number	Per cent
1942													
A	22,697	69	624	1,427	2,120	133	16	242	371	629	710	102	14.4
B	4,935	0	335	0	335	36	0	96	0	96	252	29	11.5
C	5,115	185	0	0	185	8	76	0	0	76	(1)	(1)	(1)
D	4,046	516	0	0	516	114	232	0	0	232	380	66	17.4
E	764	0	0	0	0	0	0	0	0	0	(2)	(2)	(2)
1943													
A	20,002	1,139	341	134	1,614	223	398	117	81	596	1,499	280	18.7
B	3,143	0	506	0	506	115	0	159	0	159	290	35	12.1
C	22,531	19	3,194	1	3,214	370	19	899	1	919	2,137	453	14.4
F	7,774	1	0	978	979	61	0	0	376	376	1,647	205	12.4
G	6,647	274	206	0	480	2	120	83	0	203	2,519	111	4.4
H	892	31	25	0	56	16	27	18	0	45	223	45	20.2
Totals	98,546	2,234	5,231	2,540	10,005	1,078	888	1,614	829	3,331	10,657	1,326	12.4

(1) Postepidemic surveys only.
(2) No outbreak.

Study in New York State Institutions

Laboratory Methods

The procedures employed made it possible to examine fecal cultures in large numbers in the New York State institutions' own laboratories. The methods were as follows:

A highly selective culture medium, S. S. (Shigella-Salmonella) agar, is now available. This grows satisfactorily all pathogenic Shigellae encountered in this country as well as other enteric pathogens, but it inhibits most of the nonpathogenic enteric organisms. It is available in dehydrated form and is easily prepared. Since a heavy fecal inoculum should be applied to this selective preparation, it is satisfactory to streak the plates with an applicator. The fecal inoculum is obtained directly from the patient by a rectal swab. A short (four and one-half inches) rubber tube of small diameter, having within it the usual applicator with a compact cotton tip is used. The distal end of the tube is cut at a bevel and its external surface is lubricated. The tip of the applicator is held just proximal to the bevelled opening of the tube, and applicator and tube are readily inserted beyond the anal sphincter. The swab is exposed by slightly withdrawing the tube. The material for culture is collected by rotating the swab as it is moved to contact the mucous membrane. On withdrawal, the culture medium is inoculated immediately by using the swab to "paint" the surface of the agar in the Petri plate. The whole procedure is so simple that the responsibility for the taking and plating of fecal culture could be left to properly instructed nurses and attendants. The patients rarely objected, since the procedure was similar to the taking of the customary rectal temperatures. Whenever this technic was introduced, it was soon accepted as the method of choice by the laboratory and ward personnel. This readiness to take cultures from many individuals with the new procedure was in marked contrast to the earlier reluctance to collect and test even a few fecal specimens.

The routine for securing diagnostic and release cultures from scattered cases is as follows. The superintendent or his assistant directs that cases of diarrhea with an associated fever or other general manifestations are to be cultured immediately; if there is

diarrhea only, the test may be delayed, but must be taken on the second day if the disorder persists. Cultures are not required in afebrile disturbances lasting less than one day since it has been found that these are culturally negative, almost without exception. An adequate supply of sterile rectal swabs and prepared medium is kept at the laboratory. When needed, a messenger (often a patient) is sent from the ward or building for one swab, in a sterile test tube, and one Petri plate per case. The culture is taken and immediately plated by selected personnel who have been instructed and made responsible. The inoculated and labelled culture with the used swab in its test tube is returned to the laboratory. Two such diagnostic cultures for each case are required.

The procedure is modified for the taking of cultures from large numbers at one time, as in surveys for the identification of carriers. In this case, the numbered plates, swabs, and record sheets are taken by a laboratory technician to the group for which cultures are to be made. Here one person takes the swabs, the technician inoculates the plates, another individual writes names and culture numbers, and one or more handle the patients. When the latter are ambulatory, the cultures are taken in one place, the patients coming in line, bending over while the swab is being taken, and leaving by a separate exit. Large numbers of patients may be handled rapidly. Commonly, it is satisfactory to use one-half of a plate to a person. This serves the practical purpose of identifying—with a minimum expenditure of materials—the carriers who are excreting many organisms.

It is widely thought that cultural tests in the diarrheal diseases are difficult. This has been a major obstacle to their effective application in the diagnosis and control of shigellosis. Obviously the first steps as described are easy; the subsequent procedures do not require an extensive knowledge of bacteriology. Most strains of pathogenic Shigellae are reliably identified by simplified cultural and serological tests described elsewhere.[1] These can be carried out in small laboratories with simple equipment. In the author's opinion such tests should be an established routine in institutional laboratories. When assistance is needed, the responsibility for this work on a communicable disease may be shared with official public health laboratories. The plates could be incubated and sus-

pected colonies picked to differential tube media (Kligler's, Krumwiede's or Russell's) at the institution's own laboratory. Tubes showing the reaction characteristic of the Shigella group would then be forwarded to the public health laboratory for final identification. Under this plan the individual from whom a suspected culture is obtained would be handled as a positive case or a carrier until proved otherwise.

Epidemiology

The institutions of New York State are usually free of Shigella infection except in outbreaks due to some particular organism. Before sulfonamides were being used in dysentery, the unmodified course of these epidemics was determined.[2] The total prevalence increases gradually following the initial case and remains at a high level for weeks or months. Ordinarily most of the clinical cases appear early in the outbreak. Subsequently the infection is maintained chiefly through subclinical attacks. At this later period, the scattered clinical cases involve chiefly the new admissions to the infected group.

The nonexplosive nature of Shigella outbreaks among institutional inmates was observed repeatedly. Twelve of the 16 outbreaks considered in this study were obviously of this type. In two, a sudden concern for prevalent disorders with a reporting of recent and current cases at one time gave the early appearance of an explosive outbreak but when the full epidemiological evidence was accumulated, it was evident that these were nonexplosive also. A sharp increase in incidence one month after the beginning of a nonexplosive outbreak was observed once. The remaining outbreak began abruptly but continued much beyond the duration of an epidemic resulting from a single exposure.

The prolonged course of these outbreaks was confirmed also. A Flexner infection, for example, was prevalent for 10 months, even though all clinical cases were being identified, isolated, and treated. Schmitz infection remained from late May through October in a group of 200 low grade mental defectives. Here 3,382 survey cultures were taken and 428 (12.7 per cent) were positive. In four outbreaks, followup cultures were taken during the winter and spring months; these revealed a low, persisting prevalence of the

infections which were epidemic during the preceding summer and fall.

The total prevalence of shigellosis was determined by cultural surveys within the limits of the reliability of the bacteriological tests. The findings for the initial survey in infected groups are indicated in the last columns of Table 1. These cultures were taken as early as practicable following the report of the outbreak except in institution G. Thus, when the need for control was recognized, a prevalence of 11.5 to 20.2 per cent had been attained.

The ratio of current cases to carriers (convalescent and passive) varied widely. One outbreak due to Flexner Z was outstanding in the severity and in the number of clinical cases. The 254 patients in the building with the largest number of cases were repeatedly examined by cultural surveys. There were 129 (50.8 per cent) positive individuals and of these 42 were or had been ill while 87 had been free of diarrheal disease, a ratio of less than 1 case per 2 carriers. In numerous surveys late in an outbreak all individuals found infected were carriers and almost all were passive carriers.

The duration of infection in adults was ordinarily less than one month. The infection was maintained in the group by a constantly changing group of carriers, not by chronic carriers. Thus persistence of Shigella infection within a group involved continuous spread.

In most of the outbreaks, there were concurrently heavily infected groups and uninfected ones. Characteristically the low grade defectives and the deteriorated inmates were chiefly involved. The infection was rarely troublesome among the tidy and clean patients.

The unequal distribution minimized the probability of waterborne infection. The milk supply was equally free of suspicion. There was no evidence that Shigellae were brought into the institution by contaminated food; neither could this possibility be excluded with certainty. The epidemiological data strongly indicated some spread by way of a common kitchen in two outbreaks, and less clearly in a third. In two of these three outbreaks, the cases were scattered and suggested accidental and infrequent in-

direct person to person transmission by way of food, dishes, or utensils.

Shigellosis was most prevalent in the summer and fall, and flies were an annoyance in some groups. However, there was no clear relationship between the rate of spread and the number of flies. It appeared probable that flush toilets and a clean physical environment removed any serious risk of spread by these insects. It was observed that Shigellae spread freely among institutional patients in their absence. It was concluded that flies had no important part in the development of the outbreaks studied.

The opportunities for spread of fecal pollution from person to person were all too evident. Gross soiling of clothes occurred frequently in the infected groups. Under the conditions, the common occurrence of fecal pollution on hands would be assumed, and this was demonstrated by cultural tests. The bacteriological observations established the fact that Shigellae, which are excreted in large numbers, often reach the fingers in a viable state. Presumably from this site they may be passed from person to person (at times by way of food or eating utensils). Some of the organisms will be ingested and establish the infection in a new individual. These outbreaks could be explained only by the assumption that this was the usual mode of spread among institutional patients.

There was little contact between those in separate buildings except in the infirmary for acute illnesses. Such contacts' rôle in the spread of infection from group to group was often apparent. On one occasion, a spread to five separate buildings was revealed by making cultures on the inmate helpers and recently discharged infirmary cases.

The incidence of shigellosis in the general population of New York State is very low. The probability of the introduction of the infection into institutional populations will also be low. The 1,259 patients who were newly admitted or readmitted in 1944 to a hospital serving the metropolitan area were examined culturally. No pathogenic Shigellae were found though two carriers of E. typhosa were discovered. Moreover, the patients in eight buildings (approximately one-half of the total in the institution) were examined culturally every second month. This work was done by the

institution's own laboratory. The findings are given in Table 2. Shigella infection had been widely prevalent during the fall of 1943 (See institution C, Table 1). These organisms were identified with decreasing frequency in the first half of 1944; during the latter half of the year no pathogenic Shigella was found in 11,732 tests. Thus, this population group slowly became free of this infection. Since there was no effective reintroduction, it remained free. In other areas with a higher incidence of shigellosis in the general population, the infection would be introduced more frequently and some variety of Shigella would tend to be present at all times. This was found to be true in Puerto Rico, and limited studies in Georgia suggest that there may be a low incidence of endemic shigellosis in institutions in comparable areas.

TABLE 2. THE FINDINGS ON CULTURAL SURVEYS FOR SHIGELLA IN ONE NEW YORK STATE HOSPITAL IN 1944

Months	Individuals tested by cultures	Individuals positive for Shigella (Flexner or Sonne)
January and February.....	4,059	17
March and April	3,978	4
May and June	3,891	1
July and August	3,902	0
September and October	3,907	0
November and December.....	3,923	0

Clinical Observations

The manifestations of this infection as observed in the New York State institutional groups were chiefly diarrhea and fever. The stools were watery and free of gross exudate in most cases. There were flecks of blood in some of the stools passed by a minor proportion of the cases. Stools with the bloody mucoid evacuations as described for classical bacillary dysentery were unusual except in the one particularly severe Flexner outbreak. Fever was a common but not a constant finding; when present it varied from a low grade elevation to increases up to 105° F. (oral). Frequently it was the prominent feature of Sonne and Schmitz infec-

tions. The contrasting mildness of the enteric disorder was diagnostically misleading. Vomiting was unusual. Most of the patients were listless, and those able to report symptoms commonly complained of general malaise and abdominal pain.

The cases varied widely in severity. Some were mere annoyances, a majority were distressing, and a small percentage was made up of hazardous illnesses. Death occurred in 12 individuals who were ill of a diarrheal disease and culturally positive at the time of death. Shigellosis was a primary cause in one-half of these at most. All but two of the deaths occurred in the one severe Flexner outbreak.

The illness in previously healthy adults usually terminated after two, three or four days in Sonne and Schmitz infections and, in general, after a longer period in Flexner infections. Prolonged illnesses were seen in young mentally defective children and in the aged and debilitated. The total duration of the bacteriologically demonstrable infection with or without symptoms in untreated cases was often one month or more.

The writer's detailed findings as to the effect of chemotherapy are given elsewhere.[4] It is concluded that the treatment of shigellosis (cases or carriers) should begin with an absorbed sulfonamide. Sulfadiazine is the drug of choice. The writer gives one gram four times daily to adults (all persons above 75 lbs.), and one-half of this amount to children (all persons 25 to 75 lbs.). A lower dosage was found to be adequate in some Flexner outbreaks. Cultures should be taken by rectal swabs daily or at least every two days during treatment. Medication may be discontinued following two consecutive negative cultures and the patient released from isolation if a third culture is negative. If the case is still positive after treatment for one week a change to sulfasuxidine in five-gram doses four times daily is recommended.

It is necessary in shigellosis to treat adequately, if at all, Shigellae may become resistant to sulfonamides under inadequate treatment. Such persisting organisms will tend to multiply and spread. The management of these resistant infections is troublesome.

Diagnosis and Differential Diagnosis

The problem in mental institutions is first to identify the sick individual and second to determine the cause of the illness.

Diarrheal diseases are most prevalent among the low grade mental defectives in the State schools and the regressed and disturbed patients of mental hospitals. These individuals do not report that they are ill; the occurrence of illness has to be observed by the attendants. With from 50 to 100 patients under the care of one attendant, even a severe disorder may escape notice. One case, for example, was discovered only when the patient fainted while walking to the dining room. She was found to have a high fever and severe diarrhea. She was obviously ill when attention was thus attracted to her but even then she gave no verbal indication of discomfort. During culture surveys of the reportedly well it was common to find individuals with markedly abnormal stools; under closer observation most of these patients were found to have clinical signs of shigellosis. Vigilance in the detection of abnormal fecal evacuations is important for the detection of clinical shigellosis, but a free use of cultural examinations is also required.

The difficulty of clinical diagnosis was accentuated by the meager histories available and by lack of significant physical findings. However, in one respect, conditions are favorable for clinical diagnosis. As a rule, multiple cases have occurred in an outbreak. The usual problem has been to identify the cause of the outbreak. Thus epidemiological features as well as clinical findings are useful in differential diagnosis.

Dietary Diarrhea. This is an ill-defined group with diverse causes and variable manifestations. A single dietary excess may be followed by a few loose stools. There is no fever. This occurs most commonly in the 24 hours following a visit by relatives who bring food which is eaten to excess. This timing is suggestive. When such a diarrhea terminates within the day, it may be accepted as noninfectious. In patients with abnormal appetites, however, the "insults" are usually repeated, and the disorder is recurring or continuous. The history and negative laboratory findings point to the diagnosis. Multiple cases in the summer and fall are often attributed to the addition of generous amounts of fresh

fruits or vegetables to the menu. Undoubtedly at times, shigellosis has been allowed to spread widely by a ready acceptance of this explanation. Laboratory findings are essential for a reliable differentiation of such suspected dietary disorders from specific enteric infections.

Food Poisoning. Most of the explosive outbreaks of diarrheal disease are due to food poisoning. The toxic substances responsible for symptoms are produced usually by the growth of staphylococci in food. The onsets are closely grouped within four to 12 hours from the ingestion of the offending material. Vomiting and diarrhea are severe but of short duration. Typically the whole outbreak is confined within one day. The explosive onset, the acute course, and the early termination of the individual case and of the outbreak are the important differential features.

Epidemic "Vomiting Disease." Two outbreaks of nausea, vomiting, and diarrhea of undetermined etiology were observed during the New York institution study. The clinical findings suggested "vomiting disease" as described in the literature.[5] Nausea and vomiting were early and prominent features of these cases. There was moderate malaise, some headache, but little, if any, fever. Epigastric tenderness was commonly noted. There was diarrhea in most, but not all cases. It varied in severity from mild to severe; the evacuations were watery without blood. The duration of illness was usually one to three days. Employees as well as patients were attacked. The epidemics began with a few cases which soon increased in number. Within a week, the condition would spread among the inmates in one building. One-quarter to one-third of those exposed were usually attacked. Separate groups were affected in succession. Stool cultures were negative for known pathogenic organisms. The prominence of the nausea and vomiting, the low fever, the usually mild diarrhea, the brief epidemic course, and the negative cultures reliably differentiate this disorder from an outbreak due to Shigella.

Amoebic Dysentery. Sporadic cases of amoebic dysentery were identified during the studies in four of the seven institutions. Clinically these were severe persisting illnesses with the bloody mucoid stools of classical dysentery. Such cases, particularly if found culturally negative for Shigellae, need to be examined for

amoebae. The writer found it convenient in acute cases to obtain material for microscopic observation by the use of the rectal swab. Adequate amounts of the bloody mucus adhered to the swab or filled the tube. The certain identification of amoebae requires experience, but for clinical purposes the observation of actively motile amoebae with clear pseudopodia in fresh specimens from cases with clinical characteristics of amoebic dysentery indicates the need for antiamoebic treatment without delay.

Salmonella Infections. During earlier Public Health Service studies of institutional patients an explosive food-borne outbreak due to Salmonella typhimurium occurred.[6] These cases were of a uniform severity; vomiting was troublesome; abdominal pain prominent, and the fever high. The usual duration of illness varied from two to five days, but occasionally it was longer. Onsets occurred throughout one week, with a majority on the second or third days. The most probable diagnosis in such an epidemic is Salmonella infection but definite differentiation from an explosive outbreak due to Shigella—which is unusual—must rest on laboratory findings.

Shigella Infections. Shigella infections occurred as endemic or sporadic diseases, not in impressive epidemics. There was a wide variability in severity. The meager clinical information available commonly suggested a "simple diarrhea." Such cases occurring in a group previously free of diarrheal disease should suggest the probability of Shigella dysenteriae (Flexner, Sonne, or Schmitz) infections. Cultural tests are required to establish diagnoses and are of particular importance in the scattered cases which may announce the beginning of an outbreak. Fecal cultures for Shigellae have been so simplified that these tests can be considered as no more difficult than blood counts. In institutional work where shigellosis is relatively prevalent and troublesome the former need to be as readily available as the latter. This is the major requirement for accurate diagnosis of shigellosis.

Prevention and Control

1. *Physical Facilities.* Basic sanitary facilities for the prevention of the spread of enteric organisms are necessities. The water supplies must be well guarded, sewage disposal safely handled, and

milk supplies of a satisfactory quality. Adequate facilities for a safe handling of food in the kitchens are essential. In the institutions concerned in the present study, weaknesses were in the use of equipment, rather than in the lack of it. The one outstanding physical defect encountered was an omission in some institutions of quarters for the isolation of patients with communicable diseases. Patients acutely ill were commonly admitted to a crowded open ward where effective individual isolation could not be attained. Appropriate, rather than improvised, quarters for the isolation of patients with communicable diseases would have simplified the problem of control.

2. *Housekeeping.* Housekeeping is of major importance in control. The environment, the bed linen, the patients' clothes, and the patient must be kept clean. As a rule, the rooms inspected in this survey were spotless, the bed linen clean, the clothes less satisfactory, and the patient himself the factor most in need of attention. In one building for low grade defectives, evidence of gross fecal soiling was recorded when cultures were taken. On the first day that this was done, moist or dried feces were present on 62 of 200 patients. On culturing five days later, there was a minor soiling in only three cases. Calling attention to the frequence of soiling stimulated new action in the handling of it. In part, the problem was lack of personnel; but, in part, it was the result of concern for the general cleanliness of environment and insufficient attention to the lack of it in places not seen during the usual inspection. A renewed emphasis on the cleanliness of hands is needed also. Soap and towels must be readily available and used effectively under supervision.

3. *Diagnosis as Related to Prevention.* Control measures in any infectious disease are simpler and more effective if applied early in the course of an outbreak. The major weakness of control as the writer observed it in this study was the delay in recognition of the outbreaks. The following is illustrative. An institution had been notably free of diarrheal disease. Its first case had an onset on April 24, and the diagnosis was established by a stool specimen sent to the State laboratory. This was reported after the child had been ill for more than one week. Chemotherapy was not used. The next known cases had onsets on May 15 and 16.

Both were examined culturally by the State laboratory, and both were positive. There were four cases with onsets between the twentieth and the twenty-fifth of the month. These and the positive reports concurrently received led to the recognition of an unusual condition which was made known one month and two days after the onset of the first known case. Cultures were taken from the 66 male patients in the hospital two days later, and 13 (19.7 per cent) were positive, including four then under treatment. The examination of patients recently discharged and of the patient "work boys" revealed the infection in five buildings, in one of which it was spreading actively.

Such delays in diagnosis have been the rule, not the exception. They have permitted epidemics to grow without restraint, and outbreaks which might have been confined have become widespread. To avoid this it is essential that cases of diarrhea be routinely cultured in the institution's own laboratory. A report of "possibly positive" can be returned in less than one day and a final report on the evening of the second or on the third day. Measures designed to prevent the development of an outbreak, if used promptly, can be applied with limited effort and reasonable hope of success.

4. *Isolation.* The problems observed in connection with isolation were these. Quarters for the isolation of patients with possible or known communicable infections were not generally available. Cases (diagnosed and suspected) and carriers who were kept in bed in the dormitory or infirmary were cared for in part by patient helpers. Usually the latter attended the individuals when soiled, carried bedpans, and handled dirty laundry. Fecal contamination of the hands was inevitable. Ordinarily, the helpers would wash satisfactorily only when under the closest supervision, which could not be provided continuously. Various other inadequacies which would contribute to the spread of enteric infections, as for example defective sterilization of rectal thermometers, have been detected from time to time.

Rooms for the isolation of individuals with known or suspected communicable infections are needed. Paid employees who have been instructed in the elements of isolation technics should be in

attendance. Obviously one rectal thermometer for each case should be provided. These are minimum requirements.

5. *Chemotherapy.* The recommended specific treatment for carriers is the same as that for active cases as stated in the foregoing. While sulfonamides were useful clinically in these outbreaks, their major value was in control. These were used in three ways as follows.

(a) Treatment of Cases Only.

This procedure meets the needs of clinical medicine. It is practicable where laboratory facilities are inaccessible and may be the method of choice in extensive mild outbreaks involving adults, particularly if caused by a Sonne variety of Shigella which is relatively resistant to sulfonamides.

Clinical cases constitute a minor portion of all infected individuals. Rigid isolation of these without attention to carriers is not indicated. The writer found in one institution a prolonged isolation of identified cases. Sixty patients were being held in isolation, all had been treated, and none were culturally positive. However, among the 238 individuals in the same building who were not in isolation, 52 (18.6 per cent) were proved to be carriers by the first cultural survey.

It must not be expected that the spread of infection will be terminated or even modified significantly by attention to cases alone. The infected group will remain for some time as a focus for potential spread. To confine the infection to the group, all general measures for control must be applied with care, with particular attention to the prevention of direct or indirect contact with other groups.

(b) Recognition and Treatment of Cases and Carriers.

The writer has used this method extensively. He believes it is a practicable procedure to aid in the prevention and control of Shigella infections among institutional inmates.

The desired objective is to prevent outbreaks. There is hope of attaining this through prompt recognition of the first cases and treating these and all contact carriers until culturally negative. The initial occurrence of one case reveals that the infection has been introduced, but the occurrence of two or more cases in the same group in one week usually indicates active spread. All mem-

bers of any group with a spreading infection should have culture examinations without delay. When this is undertaken promptly, the infection is likely to be relatively confined. The performance, even of repeated, cultural tests at this time is a small cost for the avoidance of an outbreak. Since Shigella epidemics evolve slowly, this is a practicable preventive procedure.

Ordinarily the need for control is recognized only when the outbreak assumes disturbing proportions. Then the simple objective is to identify the infected individuals and treat them until culturally negative. Single cultures do not reveal all infected individuals, hence repeated cultural surveys are required. All cases and known carriers need to be isolated during treatment. The response to this preventive procedure is indicated by the following illustrative outbreaks.

Illustrative Outbreaks

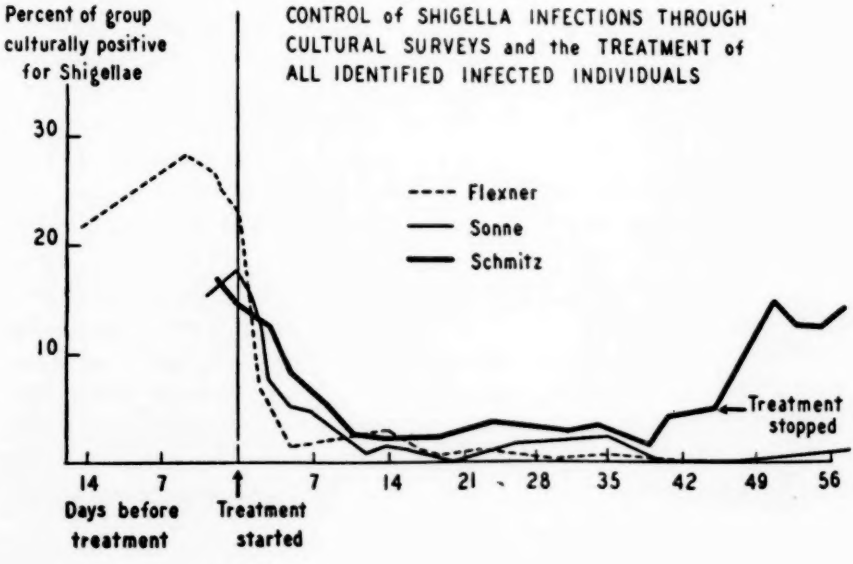
Clinical cases of acute diarrhea began to appear in late March, 1943, among the inmates (approximately 200) of a building for low grade mental defectives. Clinical cases only were treated up to April 13. Three surveys during this period revealed an average prevalence of Flexner W infection of 24.7 per cent which was maintained without significant change. (See Table 3.) On April 13 an isolation ward was opened and 42 patients whose cultures taken two days earlier were then known to be positive, were transferred for treatment. Those positive on subsequent tests were removed to the isolation ward for treatment. Patients were released from isolation after two consecutive negative cultures and were returned to one dormitory in their own building for followup cultures. This control procedure rapidly reduced the prevalence to a low level as shown in the table and Figure 1. However, it was four weeks before all individuals were culturally negative for the first time, and one indipidual was positive subsequently. Before this control procedure was applied, clinical cases were occurring at an average of one a day. The last case had its onset on April 13, the day on which treatments were started. Seven patients in the unisolated group were found positive by the first cultural survey after treatments started; two had had positive tests earlier, while five were new infections according to the cultural ob-

TABLE 3. CULTURAL FINDINGS IN AN OUTBREAK OF SHIGELLOSIS WHICH WAS CONTROLLED BY THE USE OF SULFONAMIDES FOR THE TREATMENT OF ALL IDENTIFIED CASES AND CARRIERS

Day(s)	Patients examined culturally for Shigella paradysenteriae (Flexner)									
	Unisolated			Isolated		Released from isolation		Total		
		Examinations	Positive	Examinations	Positive	Examinations	Positive	Examinations	Positive Number	Positive Percent
Before	15	195	42	0	0	0	0	195	42	22
treatments	5	195	55	0	0	0	0	195	55	28
started	2	193	47	0	0	0	0	193	47	24
Treatments started		153	11	42	33	0	0	195	44	23
After	2	144	7	48	7	12	0	204	14	7
treatments	5	138	2	17	1	48	0	203	3	1
started	7	134	1	15	2	55	0	204	3	1
	14	121	5	1	0	65	0	187	5	3
	19	131	1	1	0	70	0	202	1	*
	22	132	2	1	0	71	0	204	2	1
	28	132	0	0	0	72	0	204	0	0
	35	125	1	0	0	72	0	197	1	1
	42	121	0	0	0	73	0	194	0	0
	63	118	0	0	0	73	0	191	0	0

*Less than 0.5 per cent.

Figure 1



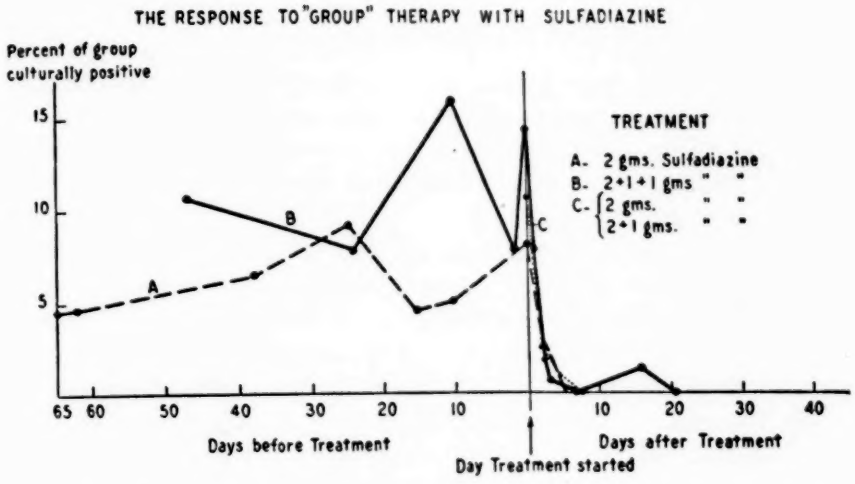
servations. Eight of the unisolated patients were positive in the next three surveys; four had had preceding positive tests. The four patients subsequently found infected all had had positive tests early in the month and had not been treated. Presumably, these were recurrent rather than newly acquired infections. Thus, this preventive measure is effective in promptly reducing the spread of infection, since those individuals who are excreting many organisms are easily detected and can be controlled. However, the weakness of the procedure is that the infection is not easily eradicated since those patients who are excreting Shigellae intermittently or in small numbers are poorly identified and while undetected remain untreated and uncontrolled.

The Sonne outbreak shown in Figure 1 was handled similarly with a closely comparable response. Isolation was not practicable in the Schmitz outbreak, however. Each survey revealed a small number of newly-infected individuals. When all treatments were stopped the prevalence increased rapidly.

(c) Treatment of All in the Infected Groups.

The third method of using sulfonamides in the control of Shigella infections involved the simultaneous treatment of all in the infected group. The response in three Flexner outbreaks is given in Figure 2. Following a single dose of two grams of sulfadiazine the prevalence dropped promptly. With an additional dose of one gram in the following day or two days, the infection was apparently eradicated from the groups. Recurrences were not found by followup cultures. These Shigellae were all highly sensitive to sulfonamides as measured by *in vitro* tests. Two Sonne outbreaks managed similarly responded slowly; but in another, which was caused by a more resistant strain, the infection persisted in the group despite the continuation of the group therapy for two weeks. However, even in this latter group there was a rapid disappearance of clinical cases. In the week before treatment of all in the group was started, 25 clinical cases were identified, but there were none in the two weeks during which the treatment was continued. There was no reduction in case incidence in a comparable building without treatment. The clinical response in the other treated groups was prompt and satisfactory. This comparatively simple

Figure 2



procedure has one grave disadvantage. Where the infection is not eradicated the persisting organisms may be "sulfonamide-fast." The writer has encountered such organisms in two institutions where this method of control was used. The spread of these highly resistant infections created a situation in which sulfonamides were of no practical value in control. Thus, in infections which are highly sensitive to sulfonamides, group therapy is an effective preventive procedure, but it is to be used with due caution. It is considered indicated only for groups with an actively spreading infection having a total prevalence of 10 per cent or more. Dosage schedules need further study, but more than minimum amounts are required to reduce the risk of developing sulfonamide resistant organisms. An initial two-gram dose of sulfadiazine, with subsequent doses of one gram twice daily for five to seven days, is suggested.

Following the completion of these treatments there should be at least two culture surveys of the group. Individuals found positive at these times would be insolated and receive full therapeutic doses of sulfadiazine or sulfasuxidine.

The writer did not use sulfonamides prophylactically under conditions in which the major purpose was to suppress the clinical manifestations of infection. One would predict, however, that this

objective would be attained with smaller doses than those used to eradicate the infection from groups. Due to the risk of developing sulfonamide resistant organisms, this suppressive treatment should not be used in static populations, as institutional inmates, but could be recommended in a military emergency.

6. *Immunization.* The possible value of immunization in the control of shigellosis is under investigation. This may be an added control measure for the future.

7. *Organized Preventive Medicine.* The medical problems of institutional patients have been approached through psychiatry, curative medicine and pathology; physicians and sanitarians trained in public health have visited institutions, but few have worked there as permanent staff members. Since the communicable disease problems of institutional populations differ from those of the general population, special attention to these is warranted. The most effective control measures for institutional groups must be determined; also such controlled groups provide unusual opportunities for the collection of basic epidemiological and clinical data of general significance. In normal times, the appointment or assignment of an epidemiologist to a department of mental hygiene would be amply justified in some states. This specialist would need to investigate sporadic, endemic and epidemic infections, formulate control procedures, and give leadership in the application of these. Eventually, some one physician in each institution could become qualified to give attention to the problems of sanitation and preventive medicine and be responsible for these. The physician in charge of a laboratory, organized to meet the needs of preventive as well as curative medicine, would be favorably located for such duties. This organization of preventive medicine in institutions would insure an effective control of communicable diseases, including Shigella infections. Furthermore, it would make it possible to utilize the unusual opportunities for the gathering of knowledge of benefit to the patients and the general population alike.

Summary

Outbreaks of Shigella infections were investigated in seven New York State mental hospitals or State schools having approximately 30,000 patients.

A total of 3,331 infections (1,078 clinical cases and 2,253 carriers) were identified culturally.

The simplified bacteriological procedures which made it practicable to examine large numbers of patients are described.

The outbreaks were characteristically nonexplosive and of prolonged duration. Most of the clinical cases occurred early in the outbreaks; later the infection was maintained chiefly by passive carriers.

The infection was spread by person to person contact, rather than by water, milk, food or flies.

Clinically there was a wide variation in severity, though most cases had the uneventful course of a "simple diarrhea."

The differential diagnosis of the diarrheal disorders which prevail among institutional populations is considered.

Methods of control are outlined, with particular emphasis on the place of sulfonamides in the prevention of these infections.

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PROBLEMS OF THE SENILE AND ARTERIOSCLEROTIC MENTAL PATIENT: REVIEW OF 200 CASES*

BY NATHAN BECKENSTEIN, M. D., AND LEONARD GOLD, M. D.

Life expectancy has increased in white persons from approximately 50 years for males and 53 years for females in 1909 to 62.9 years and 67.3 years, respectively, in 1940. Among colored persons, it has increased from about 34 years for males and 37.6 years for females in 1909 to 53 years and 56 years, respectively, in 1940.[1] As the life span is lengthened, one begins to see more and more of the psychiatric conditions incident to the later years. The most prominent of these are the psychoses with senility and cerebral arteriosclerosis, which, besides their mental aspects, raise many social, economic and public health problems.

The annual report of the Department of Mental Hygiene of the State of New York for 1943[2] has a table showing that senile psychoses rose from 6.3 per 100,000 general population in 1913 to 13.2 per 100,000 in 1943. They comprised 9.8 per cent of the first admissions to the civil State hospitals in 1913 as compared to 14.2 per cent in 1943. The incidence of psychosis with cerebral arteriosclerosis increased from 2.4 per 100,000 in 1913 to 22.0 per 100,000 in 1943. Of the first admissions, the rise is from 3.7 per cent in 1913 to 23.7 per cent in 1943. In other words, the senile and arteriosclerotic psychoses accounted for 37.9 per cent of the first admissions for the fiscal period ending March 31, 1943 (which by the new State law was nine months instead of the usual 12).

Malzberg[3] recently stated, "We must look forward to a further increase in the expectation of a psychosis with cerebral arteriosclerosis, as a result of the combined effect of an upward trend in rates of first admissions and a decrease in rates of mortality in the general population."

At Brooklyn State Hospital, an institution where conditions have some bearing on the general situation in New York City, the trend has been as follows:

*Presented before the New York Society for Clinical Psychiatry at Brooklyn State Hospital, February 8, 1945.

	Percentages of first admissions	
	1933	1943 (9 months)
Senile psychoses	16.8	17.1
Psychosis with cerebral arteriosclerosis	19.0	27.4
Total	35.8	44.5
Number of first admissions	1,494	2,024

Simon[4] and Wadsworth[5] found similar increases in admission rates for senile and arteriosclerotic psychoses, in their respective states of Massachusetts and Rhode Island.

Every psychiatrist has been faced with the question: "What plans can be made for an old man or woman who frequently is found lost in the street, or who wets and soils himself, has periods of excitement, or turns on the gas without the realization that it is not lighted? "What arrangements are to be made about his business or his shop?" "Will he improve sufficiently to operate it again?" On what can the psychiatrist base the opinion he gives to the Department of Public Welfare that has been extending old age assistance? The prognosis is usually requested—will the patient be hospitalized temporarily or permanently? How can his financial assets be best preserved? Should a guardian be appointed? Is hospitalization indicated at all times? If the patient remains at home will he receive adequate care? Is the full burden going to fall on a feeble, aged mate who would soon break down under it and prove another problem? Further, will the patient ever get well? If so, how soon? If not, how long is he going to linger? Light may be thrown on these questions by some knowledge of the prognosis in these cases.

This study was made in an effort to clarify these questions. One hundred cases of senile psychoses and 100 cases of psychosis with cerebral arteriosclerosis were selected for study. Each group consisted of 50 consecutive male admissions and 50 consecutive female admissions between April and June, 1943. These 200 cases were studied in relation to age distribution, duration of mental symptoms prior to admission, duration of hospital residence, total duration of mental illness, type of onset, and precipitating factors.

Age Distribution of Cases

Senile Psychoses. Table 1 shows that 66 per cent of the patients were over 76. Most of them were around 80, the oldest was 92. It is interesting to note that only 13 were still living on January 31, 1945, the time of this study, and that most of those living were over 76 years of age.

Table 1. Age Distribution, Senile Psychoses

Age	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
61-65	3	5	8	..	..	..	..	..	..	3	5	8
66-70	..	5	5	1	..	1	..	..	..	1	5	6
71-75	13	5	18	1	1	2	..	..	..	14	6	20
76 and over	26	30	56	4	3	7	2	1	3	32	34	66
Total	42	45	87	6	4	10	2	1	3	50	50	100

Psychosis with Cerebral Arteriosclerosis. In Table 2, one notes that 68 of the patients were under 70, 47 under 65. At the time of this study, 39 were still living, most of them (25 of the 39) were less than 65 years old. These findings are similar to those of Rothschild[6] in whose cases the average age of senile psychotic patients was 75 years and of the arteriosclerotic psychotics 66 years.

Table 2. Age Distribution, Psychosis with Cerebral Arteriosclerosis

Age	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Under 50	..	..	..	..	..	..	..	..	..	..	..	..
51-55	..	1	1	2	..	2	1	3	4	3	4	7
56-60	3	6	9	2	3	5	1	4	5	6	13	19
61-65	10	2	12	..	3	3	3	3	6	13	8	21
66-70	10	9	19	..	1	1	1	..	1	11	10	21
71-75	4	5	9	2	2	4	3	..	3	9	7	16
76 and over	6	5	11	2	1	3	..	2	2	8	8	16
Total	33	28	61	8	10	18	9	12	21	50	50	100

Duration of Hospital Residence

In 1943, Dr. C. H. Bellinger, director of Brooklyn State Hospital, compiled statistics relative to the deaths of patients in that institution. He found that for the fiscal year ending June 30, 1942, 703, or 77.5 per cent, of the deaths were patients with senile psy-

choses (319) or psychosis with cerebral arteriosclerosis (384). Among the senile patients, 32.5 per cent died within one month, 30.7 per cent within the next two months, a total of 63.2 per cent within three months. Among the arteriosclerotics 32.3 per cent died within one month, 28.3 per cent between one and three months, a total of 60 per cent within three months. In the nine-month period to March 31, 1943, the findings were approximately the same, i. e., 60 per cent of the deaths occurring within three months. The present study confirms Dr. Bellinger's findings.

Senile Psychoses. This present series (Table 3) shows that 55 (63.2 per cent) of the 87 deaths of senile psychotic patients in the group studied occurred within three months, 41 (47 per cent) within one month.

TABLE 3. DURATION OF HOSPITAL RESIDENCE, SENILE PSYCHOSES

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than one week...	7	7	14	..	..	..	1	..	1	8	7	15
1-2 weeks	7	8	15	..	..	..	1	..	1	8	8	16
2-3 weeks	5	6	11	..	..	..	..	..	..	5	6	11
3-4 weeks	..	1	1	..	..	..	..	..	..	..	1	1
1-2 months	6	4	10	..	..	..	..	..	..	6	4	10
2-3 months	2	2	4	..	..	..	..	..	..	2	2	4
3-6 months.....	7	6	13	..	..	..	..	..	..	7	6	13
6 months-1 year	4	8	12	..	..	..	..	..	..	4	8	12
1-2 years	4	3	7	6	4	10	..	1	1	10	8	18
Total	42	45	87	6	4	10	2	1	3	50	50	100

Psychosis with Cerebral Arteriosclerosis. Table 4 demonstrates that 42, or 68.8 per cent, of the 61 deaths in this group occurred within three months, 28, or 45.9 per cent, within one month.

It is also interesting to note that of the 21 patients who were well enough to go home, 16, or 76 per cent of them, left within two months. All 21 left within a year. It seems, therefore, that if a patient suffering from psychosis with cerebral arteriosclerosis is going to be well enough to leave the hospital, he will probably do so within two months.

This agrees with Sands[7] who noted in his cases of arteriosclerotic confusion that, with proper treatment, recovery occurred within one to three months.

TABLE 4. DURATION OF HOSPITAL RESIDENCE, PSYCHOSIS WITH CEREBRAL ARTERIOSCLEROSIS

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than one week...	7	3	10	..	..	..	..	1	1	7	4	11
1-2 weeks	5	5	10	..	..	..	..	1	1	5	6	11
2-3 weeks	2	3	5	..	..	..	..	2	2	2	5	7
3-4 weeks	1	2	3	..	..	..	..	..	..	1	2	3
1-2 months	4	3	7	..	..	..	7	5	12	11	8	19
2-3 months	3	4	7	..	..	..	1	..	1	4	4	8
3-6 months	3	3	6	..	..	..	..	2	2	3	5	8
6 months-1 year	7	1	8	..	..	..	1	1	2	8	2	10
1-2 years	1	4	5	8	10	18	..	..	..	9	14	23
Total	33	28	61	8	10	18	9	12	21	50	50	100

DURATION OF MENTAL SYMPTOMS PRIOR TO ADMISSION

In view of the many deaths occurring shortly after admission, the question arose whether these patients became sick suddenly or were ill for some time, with the condition causing their hospitalization being only a terminal stage in a longer process.

Senile Psychosis. In Table 5, it is seen that of the 96 patients in whom duration of mental illness is known, 66 were sick over six months prior to admission, 51 over a year. Among the dead, 53, or 63.8 per cent, of the 83 dead in whom duration is known, had their illnesses more than six months. Thus, it seems that the hospitalization was a terminal state in many cases.

TABLE 5. DURATION OF MENTAL SYMPTOMS PRIOR TO ADMISSION, SENILE PSYCHOSES

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than one month..	9	4	13	..	..	..	1	..	1	10	4	14
1-2 months	5	..	5	1	..	1	..	1	1	6	1	7
2-3 months	4	2	6	1	1	1	..	..	..	5	2	7
3-6 months	2	4	6	..	..	..	..	..	..	2	4	6
6 months-1 year	2	8	10	..	1	1	..	..	..	2	9	11
1-2 years	12	13	25	2	1	3	1	..	1	15	14	29
Over 2 years	6	12	18	2	2	4	..	..	..	8	14	22
Unknown	2	2	4	..	..	..	..	..	..	2	2	4
Total	42	45	87	6	4	10	2	1	3	50	50	100

Psychosis with Cerebral Arteriosclerosis. In Table 6, one notes that the situation was more acute, 63 of the 100 arteriosclerotic patients being afflicted for less than six months. Of the 61 dead, 39, or 64 per cent, had durations, prior to admission, of less than six months, 27, or 44 per cent, of less than two months.

Comparison of the surviving cases is interesting. Of 18 who remained in the hospital, 10, or 55.5 per cent, were sick less than six months prior to admission, whereas of the 21 who left the hospital 14, or 66.6 per cent, were of less than six months duration and 13, or 61.9 per cent, of less than three months prior to admission.

TABLE 6. DURATION OF MENTAL SYMPTOMS PRIOR TO ADMISSION, PSYCHOSIS WITH CEREBRAL ARTERIOSCLEROSIS

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than one month..	9	9	18	1	1	2	4	3	7	14	13	27
1-2 months	6	3	9	1	1	2	..	4	4	7	8	15
2-3 months	3	3	6	1	2	3	1	1	2	5	6	11
3-6 months	4	2	6	1	2	3	..	1	1	5	5	10
6 months-1 year	..	3	3	..	..	..	1	3	4	1	6	7
1-2 years	8	2	10	2	2	4	2	..	2	12	4	16
Over 2 years	3	6	9	2	2	4	1	..	1	6	8	14
Total	33	28	61	8	10	18	9	12	21	50	50	100

TOTAL DURATION OF ILLNESS

It is obviously important to know how long these illnesses will last.

Senile Psychoses. Table 7 demonstrates that of the 96 senile patients whose total durations of illness were known, 79, or 82 per cent, were ill over six months, 41 were afflicted one to three years. This period seems to be the peak period, 35, or 42.1 per cent, of the deaths occurring during that period.

A summary of the deaths in percentages reveals that 82.5 per cent died within three years of the onset of symptoms. The following are the details:

18.8 per cent died within three months
4.8 per cent died within three to six months
16.8 per cent died within six months to one year
42.1 per cent died within one to three years
6.0 per cent died within three to fours years
10.8 per cent died within five or more years

TABLE 7. TOTAL DURATION OF ILLNESS, SENILE PSYCHOSES

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than three months	11	5	16	..	..	..	1	..	1	12	5	17
3-6 months	3	1	4	..	..	..	..	..	..	3	1	4
6 months-1 year	4	10	14	..	..	..	..	..	..	4	10	14
1-2 years	10	9	19	1	..	1	..	1	1	11	10	21
2-3 years	6	10	16	1	2	3	1	..	1	8	12	20
3-4 years	3	2	5	2	..	2	..	..	..	5	2	7
4-5 years	..	1	1	1	1	2	..	..	..	1	2	3
Over 5 years	3	5	8	1	1	1	..	..	..	4	6	10
Unknown	2	2	4	..	..	..	..	..	..	2	2	4
Total	42	45	87	6	4	10	2	1	3	50	50	100

Psychosis with Cerebral Arteriosclerosis. Table 8 shows that 70 per cent of the arteriosclerotic patients had total durations of illness of less than two years. Of the 61 deaths, 24, or 39.3 per cent, had total durations of illness of less than six months. Of the 21 well enough to leave the hospital, nine, or 42 per cent, were psychotic less than six months. Twenty of the 21 were sick less than two years. The one male with a total duration of over five years, had had repeated episodes of confusion and several admissions, but there were clear periods between attacks.

TABLE 8. TOTAL DURATION OF ILLNESS, PSYCHOSIS WITH CEREBRAL ARTERIOSCLEROSIS

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than three months	7	9	16	..	..	..	2	6	8	9	15	24
3-6 months	5	3	8	..	..	..	..	1	1	5	4	9
6 months-1 year	10	2	12	..	..	..	2	1	3	12	3	15
1-2 years	4	4	8	2	4	6	4	4	8	10	12	22
2-3 years	1	4	5	..	3	3	..	..	..	1	7	8
3-4 years	2	5	7	2	1	3	..	..	..	4	6	10
4-5 years	1	..	1	1	1	2	..	..	..	2	1	3
Over 5 years	3	1	4	3	1	4	1	..	1	7	2	9
Total	33	28	61	8	10	18	9	12	21	50	50	100

TYPE OF ONSET

Tables 9 and 10 show the variation in the types of onset in these psychoses.

TABLE 9. TYPE OF ONSET OF MENTAL SYMPTOMS, SENILE PSYCHOSES

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Acute	27	11	38	1	2	3	1	1	2	29	14	43
Insidious	15	34	49	5	2	7	1	..	1	21	37	58
Total	42	45	87	6	4	10	2	1	3	50	50	100

TABLE 10. TYPE OF ONSET OF MENTAL SYMPTOMS, PSYCHOSIS WITH CEREBRAL ARTERIOSCLEROSIS

	Dead			In hospital			Out of hospital			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Acute	30	16	46	7	5	12	8	11	19	45	32	77
Insidious	3	12	15	1	5	6	1	1	2	5	18	23
Total	33	28	61	8	10	18	9	12	21	50	50	100

Senile Psychoses. In the senile psychoses, the type of onset was not of much significance, inasmuch as the disease is progressive and the outcome the same whether the onset is acute or insidious. Of those with acute onset, 88.3 per cent died, whereas among those with insidious onsets 84.5 per cent died.

Psychosis with Cerebral Arteriosclerosis. The greater frequency of acute onset among the cerebral arteriosclerotic group is demonstrated by the fact that 77 per cent had this type of onset. This agrees with Rothschild's findings.[6] Here one can see some value of the acuteness of onset in determining prognosis. Of the 77 patients with acute onsets, 59 per cent died, and 25 per cent left the hospital; whereas, of those with insidious onsets, 65 per cent died, and only 8 per cent left the hospital. Further, 16 per cent of those who had had acute onsets remained in the hospital, as compared to 26 per cent of those with insidious onsets. It can be seen, therefore, that as far as those who became well enough to leave the hospital are concerned, the acuteness of onset was a favorable prognostic factor.

Along with the suddenness of onset, there is usually a precipitating factor initiating the mental symptoms. Thirty-three per cent of the senile patients and 68 per cent of those with cerebral arterio-

sclerosis evidenced such initiating events. The types of precipitating episodes are of interest. The most common in the senile group were accidents with or without organic damage to bones or brain, acute infections and psychic traumata, shortly before the appearance of mental symptoms. For example, one man had left a farm colony after four years residence there, to live with his son. Within a few months he was dead. One woman, a public stenographer, lost her clientele. Shortly afterward, the psychosis began, and she died within two and one-half months. In another instance, a man's wife and daughter died. Within two months, he was dead himself. In the fourth case, after the patient was placed in bed because of arthritis, she became confused and forgetful and died within five weeks. Still another man was placed in bed because of an ulcer of the leg. Until then he was always ambulatory. Within one month of becoming bedridden, he died.

As is to be expected, cerebrovascular accidents and acute cardiac attacks were the most common precipitating factors for mental symptoms in the cerebral arteriosclerotic group. Thirty-six patients had cerebral hemorrhages and 10 had cardiac attacks. In addition, psychic traumata in the nature of the loss of near relatives, the sudden discovery of cancer, or an amputation, played rôles.

Concomitant Organic Pathology

As was expected, complicating conditions among these patients were hypertension, arthritis, diabetes, fractures, hernia and gangrene, resulting in some cases in amputations. Practically all the senile psychotic patients had cardiac complications. Among the arteriosclerotic cases, hypertension occurred frequently. These complications, are mentioned, inasmuch as they add to the problem of care and treatment. (Etling[8] had similar experiences.)

Followup of the Patients Who Left the Hospital

Senile Psychoses. Of the three senile psychotic patients who left the hospital, the writers were able to trace the one woman, who was still living and cared for by her daughter one year and seven months after leaving the hospital. The total length of her illness was less than two years.

The two men could not be found.

Psychosis with Cerebral Arteriosclerosis. Of the 21 patients in the arteriosclerotic group who left the hospital, followups were successful in 18 cases. Of these, five (one man and four women) had died. The length of life since the time of their first symptoms ranged from five months to one year and eight months, one living over a year, two reaching over one and one-half years.

Among the 13 patients still living at the time of this study, the periods since their first symptoms were from one and one-half to two and one-half years in six cases, two and one-half to three years in four cases, three years eight months in two cases and six years eight months in one. Both patients of the more-than-three-year group had had two attacks. The patient living over six years had been admitted to hospitals on three occasions.

It was interesting to note that of the seven living men one was subsequently readmitted to the hospital, one was ill at home with diabetic gangrene of the leg, two were home caring for their sick wives, one was living on an old age pension, one was home and dependent on his daughter, and one was working.

Of the six living women, four were doing housework, one was under a doctor's care, and one was in a nursing home.

Comment

From the viewpoint of the doctor who sees these elderly persons in their homes, he may consider several features in discussing with relatives the future plans for these patients. Between the ages of 60 and 70, they are likely to be ill with cerebral arteriosclerosis. Over that age, the tendency is to show senile symptoms. In the former group, one is more likely to see severely, and often fatally, damaging organic pathology. Such acutely severe organic damage will be less frequent among the senile, where once mental symptoms set in, the average duration of illness shows a trend to between one and three years. At the time the patient is first seen, the duration of the confusion, incontinence, fears of being harmed and other symptoms can be useful in future planning. The closer this duration is to two to three years, the shorter is the life expectancy in the senile person. If the question of hospitalization is brought up, one can recall that almost 65 per cent of such pa-

tients die within three months of hospitalization and 46 per cent within one month. The mental symptoms are often a terminal sign, and the next three-month period will determine, for a large majority, whether the outcome is fatal.

In a person suffering with cerebral arteriosclerosis, the likelihood of recovering from the illness is better if the onset was acute than if the onset was more insidious. A period of three months observation will again indicate the probable eventual outcome. If the patient survives for three months the severe damage of the organic pathology, e. g., cerebral hemorrhage or cardiac attack, and his mental symptoms were acute in onset, he is more likely to recover from his psychosis than if his mental symptoms came on insidiously. On the whole, the course of the illness in psychosis with cerebral arteriosclerosis is characterized by more dramatic onset and a shorter duration than in the senile psychoses. The favorable or unfavorable outcome can be determined much sooner than in the senile disorders.

There may be a tendency to consider the prognosis in these cases generally poor, but the experience at Brooklyn State Hospital, where the rate of admissions is high, reveals that the actual number of patients who improve and leave the hospital, is significant enough to require the psychiatrist to prognosticate often how soon a given patient will improve. As mentioned in the introduction, the psychiatrist caring for the patient in the hospital is often asked by the family, public welfare agencies and employers to be of aid in planning for the future of the stricken individual. To help him, he has several factors to consider. A large majority of the patients hospitalized will die within three months after entrance. The patient having a psychosis with cerebral arteriosclerosis who survives this period, has a better chance than at time of entrance of improving enough to go home. Furthermore, the improved patients show their improvement within the first two months of hospitalization. Therefore, the second and third months in the hospital are the periods within which the psychiatrist can arrive at some estimate of the life expectancy and the eventual recovery of the patient. He can further make use of the duration of the illness before entrance to the hospital. If the outcome in the hospital is not fatal within three months, the patient who has had

a previous duration of illness less than three months has a better chance of surviving than the one ill over three months.

Again, where the patient with cerebral arteriosclerosis has had an organic insult with an acute onset of mental symptoms, he is more likely to recover from his psychosis than the one whose mental symptoms came on insidiously. From the foregoing, then, it is reasonable to advise the various public agencies and relatives to postpone any definite planning for three months.

The high death rate of almost 65 per cent within three months after hospitalization brings forth other problems. The State hospitals have always met their responsibilities toward these aged psychotic patients who are entitled to every consideration and care which can be given them. Attempts are being made to devote separate units in the hospitals to this purpose. There are, however, many families who because of still lingering prejudices toward mental institutions, are reluctant to approve, and often oppose, commitment of their aged relatives to a State hospital. They talk in terms of not wanting the patient to finish life with the "stigma" of admission to a mental hospital. Many present the argument that the State hospitals are overcrowded and that special consideration should be given to these aged persons whose mental illnesses are the end stages of organic conditions. To meet this situation, several suggestions present themselves. First, the patient might be kept home longer if an adequate system of public health nursing, such as the Visiting Nurse Service, could be established to help where necessary. Second, soundproof psychiatric wards attached to general hospitals or hospitals for chronic diseases, might keep these patients for a few months during which time the outcome would be settled. Such wards, the writers understand, are in operation in some parts of the country. Third, the establishment of geriatric centers with facilities for the temporary care of the aged psychotic would be helpful.

Summary

1. One hundred consecutive patients with senile psychoses and 100 consecutive patients with psychosis with cerebral arteriosclerosis admitted April to June, 1943, were studied.

2. Of the 100 senile psychotics, 87 died, 10 are still living in the hospital and three are home. Of the 100 cases of psychosis with cerebral arteriosclerosis 61 patients are dead, 18 are still living in the hospital, and 21 have gone home.

3. In the senile psychoses, 63.2 per cent of the deaths occurred within three months after admission, 47 per cent within one month. In the psychosis with cerebral arteriosclerosis group, 68.8 per cent of the deaths occurred within three months after admission, 45.9 per cent within one month.

4. Of the arteriosclerotic psychotic patients who left the hospital, 76 per cent did so within two months, the rest left within a year.

5. Two-thirds of the senile patients were ill longer than six months prior to admission; whereas approximately two-thirds of the arteriosclerotic psychotic patients were ill less than six months prior to admission.

6. Among the senile psychotic patients, the total duration of the psychosis was mostly one to three years. Among the arteriosclerotic psychotic patients, 70 per cent had a total duration of illness of less than two years. Of those who left the hospital, 42 per cent were sick less than six months, 94.7 per cent less than two years.

7. The onset in the senile psychoses tended to be insidious, whereas in the psychosis with cerebral arteriosclerosis, it was more acute. In 33 of the senile psychotics, infections, accidents and psychic traumata, such as loss of loved ones, were precipitating factors. Among the cerebral arteriosclerotic psychotics, stroke was the most prominent precipitating factor, occurring in 36 cases, while heart attacks, psychic traumata, fractures and surgical operations account for 32 others.

8. Followup was possible in 19 patients who were discharged. One woman with a senile psychosis was still alive less than two years after the onset of symptoms. Four patients who had psychoses with cerebral arteriosclerosis died within one year and eight months after the appearance of symptoms. Sixteen patients with cerebral arteriosclerosis were still alive for an average period of two and one-half years since the first evidence of symptoms.

Conclusion

The study of this series of cases shows that the total duration of mental illness in the senile psychotic tends to be one to three years, that in the cerebral arteriosclerotic psychotic the total duration is generally less than two years, that the cerebral arteriosclerotic psychotic has a greater chance for survival and that when he is well enough to leave the hospital he most often does so within two months.

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A SHORT GENETIC SURVEY OF PSYCHIC IMPOTENCE. I.*

BY EDMUND BERGLER, M. D.

I. Terminology and the Facts Behind It

It is customary in Freudian psychoanalysis to name different types of neurosis according to one of two schemes: 1. the level of regression or fixation represented (for instance, phallic, anal, or oral neurosis); 2. (and this is the older scheme) the organ or symptom primarily involved (for instance, heart-neurosis, agoraphobia, erythrophobia, compensation neurosis, traumatic neurosis). It is obvious that all neuroses in the second group can also be fitted into the first scheme, although sometimes with difficulty, because the second scheme is descriptive, and neuroses of the same description may differ genetically. For instance, a heart neurosis may be an hysteric, that is phallic, neurosis or a hypochondriacal neurosis, that is an anal one.

There is, of course, no doubt that the genetic classification is and will remain the favorite one in psychoanalysis. With the increase of our knowledge, larger and larger subdivisions of each genetic group are necessary. The idea has even been promoted (Eidelberg) of using two yardsticks in judging every neurosis: What is its genetic level? What is its "libidinous type?" (Freud.) In addition to this, as the writer believes, fruitful approach, the present writer has advocated two other considerations: First, in every neurotic case the specific technique of expressing childlike megalomania[1] should be mentioned. Second, since the three genetic groupings used do not include neuroses arising from scopophiliac difficulties (voyeurism [peeping] and exhibitionism), the writer has proposed that a separate genetic disease entity of "scopo-

*This is the first part of a two-part study of psychic impotence. It covers "I. TERMINOLOGY AND THE FACTS BEHIND IT" and "II. 20 INFORMATIVE QUESTIONS." Part two, dealing with "III. TYPES OF PENIS NEUROSIS" and "IV. CONCLUSIONS," will appear in a later issue of The Psychiatric Quarterly.

1. The problem of childlike megalomania, embedded in every neurosis, is of prime importance. For a discussion of it, see the writer's contribution to the Symposium of Therapeutic Results in Psychoanalysis. International Psychoanalytic Convention, 1936, published in Int. J. Psychoan. (London), xviii:2-3, 1937. Also see his "Thirty Years After Ferenczi's 'Stages of the Sense of Reality,'" Psychoan. Rev., Vol. 32, No. 2, 1945.

philiac diseases"[2] be established. So far three diseases in this group have been described genetically by the writer—depersonalization[3] erythrophobia,[4] and alysosis.[2]

In other words, in describing a neurosis in the future, one will probably have to mention three factors:

1. Specific genetic level (phallic, anal, oral, scopophiliac).
2. Specific libidinous type.
3. Specific technique of expressing megalomania.

In the meantime, it must be asked whether it makes sense to add to the existing, historically-based terminologic confusion by introducing descriptive terminology, mentioned at the outset of this paper as the second scheme of nomenclature. Analysis has carried forward some of the old descriptive terms, giving them new meanings. For instance, the psychiatric term "hysteria" is old; Freud has given it the meaning of phallic regression. There is no danger in using the older terminology provided one knows what one is talking about in *genetic* terms.

To turn now to the case at hand, the writer proposes to use the term "*penis neurosis*" for the following reasons: The unconscious misuse of the organ, the penis, for neurotic purposes has long been known in psychoanalysis. Writers have referred to it simply as representing a potency disturbance or impotence. For instance, if a man *unconsciously* identifies his sexual partner with his mother of the Oedipal period, his inner conscience will object, and he will have a potency disturbance of the phallic (hysteric) type. His unconscious wish is incest; his inner prohibition prevents this; and his resulting neurotic symptom and sign, impotence, satisfies, in a compromise, both tendencies. The man pays for his *unconscious* pleasure in the fantasy of being together with his mother sexually by self-punishment. Of course, when it is explained to this sick man that his potency disturbance implies elements of *unconscious pleasure*—in the fantasy of incest—he will laugh and

2. On the disease entity boredom (alysosis) and its psychopathology. PSYCHIAT. QUART., 19:1, 1945.

3. The mechanism of depersonalization (in collaboration with L. Eidelberg). Int. Z. f. Psychoan., xxi, 1935.

4. A new approach to the therapy of erythrophobia. Paper read at the XVth International Psychoanalytic Convention, Paris, 1938. Published in Psychoan. Quart., XIII: 1, 1944.

ask the physician bitterly if he believes that impotence is a pleasure. The patient confuses the superficial element of suffering—the appeasement of the super-ego for permitting the unconscious fantasy—with the unconscious wish, not visible on the psychic surface.

In other words, the question arises as to whether the wording used until now, "potency disturbances of the phallic, anal, or oral level," is sufficient to cover the observable clinical facts. The present writer does not think so, for the reason that some men who do not show any potency disturbance in the trivial sense of the term still have disturbed sex lives. For example: An actor consulted him once, complaining of sleeplessness whether he had intercourse or not. He explained that if he did not have regular intercourse, he was sleepless because he was compelled to think about a woman and was sexually disturbed; to avoid this, he had intercourse from three to five times a week, but was still sleepless because he was compelled to think about the intercourse just experienced and was therefore still sexually disturbed. To fight his sleeplessness, he had tried first to avoid intercourse altogether, later to have it as often as possible, both to no avail. From the descriptive viewpoint, the man had no potency disturbance; indeed, his erective potency was rather strong. And yet his sex life was not normal. To avoid such difficulties in terminology, it was suggested (Reich) that we use the phrase "orgastic impotence." One could say that the actor mentioned above had neither an erective disturbance nor an ejaculatory one, but an orgastic one.

Unfortunately, the term "orgastic potency" did not solve the difficulty entirely, though it was a step in the right direction, since it took into consideration more than the mechanical part of coitus. It simply gave a needed phraseology, with slight elaboration, to a phenomenon described by Freud in 1912. In his paper, "The General Degradation of Love Life,"[5] Freud states:

"Taking the term 'psychic impotence' in a wider sense and not limiting it to the meaning of failure in the situation of coitus in spite of the aim to have pleasure and the possession of intact sexual organs, all those men must be added to the first line who are termed psycho-anesthetics; they *never fail in the act but they per-*

5. Ges. Schr. V, p. 204.

form it without feeling any particular pleasure, a happening more frequent than is generally supposed."

The main objection to the term "orgastic impotence" is its generality. The actor just mentioned had an orgastic disturbance based on *unconscious*[6] homosexuality (more precisely, femininity) stemming from the "negative" Oedipus complex. Unconsciously he wanted to be overwhelmed by his father, and played the rôle of the mother. His unconscious wish was warded off by means of his hyperpotency, which served allegedly to prove that he was a "he-man." Since his dynamically-decisive feminine wishes were repressed and could not be fulfilled, he overtaxed his defense mechanism of pseudo-activity without getting satisfaction and normal release.

As opposed to this example of "orgastic impotence," let us take the following case: A certain patient was married five times. He fell in love with young girls, married them, and was happy and potent for a few weeks. With great regularity, however, he lost interest in his newly-acquired wife, and being a man of considerable means, rapidly divorced her. His potency never failed him, even when he had lost interest in his sexual partner. However, he distinguished very precisely between his sexual relations of the first weeks of his marriages and the "mechanical" ones which followed, in which orgastic potency was disturbed. Precise questioning revealed that his "loss of interest" was always preceded by thoughts in regard to defecation. He discovered that his "goddesses" were human beings, who had to defecate at times. The moment he thought of this "painful picture," he was through with the woman. Analysis proved that his obsessional-neurotic aversion to the normal processes of fecal elimination covered exactly the opposite attitude—deep fixation on the cloaca-theory. This was warded off, and the idea of a non-fecal "goddess" established as a defense. The "return of the repressed" brought about his fiascos.

6. Hysterical "unconscious homosexuality" in men, resulting from unconscious feminine identification ("negative" Oedipus complex) should not be confused with the *perversion* homosexuality. The term, "unconscious homosexuality," (which indicates hysteric neurosis) is misleading, and should be replaced, in the writer's opinion, by "unconscious feminine identification." This Oedipal identification *never* leads to perversion. See the writer's paper, "Eight prerequisites for the psychoanalytic treatment of homosexuality." Psychoan. Rev., 3, 1944.

There is no doubt that this patient, too, had an orgastic disturbance. One sees that, since the term is applicable to both cases, the actor and the chronic divorcé, it is too general and tells us nothing of the specific reasons for the illnesses to which it refers, or even of their specific symptomatology. A scientific term which needs a half-page of amplification every time it is applied is not a panacea for terminological difficulties.

Seemingly there is no ideal solution of this problem of terminology, and one cannot help giving a complicated explanation in every case. Still, "penis neurosis" is more precise than "sexual disturbance," which is automatically erroneously identified with "potency disturbance." If one must use a general term, let us at least coin one which covers all eventualities. It is at least possible to subsume all possible neurotic difficulties connected with genital sex under the heading "penis neurosis." The term includes erective impotence, ejaculatory disturbance, orgastic impotence, hypochondriacal complaints, neurotic choice of sexual partners, neurotic abstinence, etc., etc.

The next task is to give an over-all picture of the typical symptomatology of "penis neuroses." First, let us ask how one can diagnose a "penis neurosis" and how one can prognose it. One short interview with the patient often gives the answer, provided the physician knows what questions to ask and how to evaluate the answers, and provided the patient does not hide the clinical facts to too great an extent.

II. 20 Informative Questions

Experience shows that the neurotic patient is, to put it mildly, prone to conceal facts regarding his sex life. Even assuming that he wants to be truthful, he has difficulty in being so because of his ignorance of the importance of specific factors. Therefore the physician must know what questions to ask, if he would get a quick, overall picture of the patient's neurosis, and especially if he would determine the level of regression. Potency disturbance in itself is not a disease entity; it is just a symptom and sign of an underlying neurosis. The writer has formulated a series of specific

questions, which clinical experience has taught him are of value.[7] Here they are in the order in which he asks them in the first interview:

1. Why did you decide to consult a physician *now?*
2. How long have you known that psychoanalysis can cure potency disturbances?
3. Do you have "morning erections" on awakening, with or without a dream?
4. How do external difficulties influence your sexual desire?
5. Why did you marry? Or, why did you remain a bachelor?
6. What kind of daydreams have you in connection with women?
7. How much time do you spend in worrying about yourself and your health?
8. Do you have your own theory to explain your potency disturbance?
9. Do you practise sexual intercouse at all, and if so, how often?
10. Do you practise intercourse because of a sense of duty or because of sexual need?
11. What sort of partner, or partners, do you choose for intercourse?
12. What are the strength and duration of the erection, and how does it take place?
13. Do you have a desire to insert?
14. How long does the intercourse last and what is the manner of ejaculation?
15. What is your usual manner of performing intercourse?
16. To what degree do you experience a feeling of participation and excitement during the act?

7. Newer experience constantly changes the individual analytic approach. For instance, the present writer first attempted the formulation of "informative questions" a few years ago, in a paper entitled, "Some Recurrent Misconceptions Concerning Impotence.," Psychoan. Rev., 27:4, October, 1940. At that time, he described 12 questions. In the present paper, the questions are reformulated and increased in number. For more extensive material, see the writer's monograph, "Psychic Impotence in Men," Med. Edition, Huber, Berne, 1937. (English translation in preparation.)

17. Do you have fantasies during intercourse?

18. In what mood are you after the sexual act?

19. Can you sleep after having had intercourse?

20. What is your psychic mood and how great is your ability to work on the day following intercourse?

Discussion of Questions

Each question will be discussed in detail in the following; and, at the same time, the typical divergence from normal will be schematically pointed out:

1. *Consultation of the Physician.* The purpose of this question is to find out the content of the inner feeling of guilt. The patient comes—so he thinks—because of his neurotic symptom and sign. In reality, he consults the physician because of his inner feeling of guilt resulting from the unconscious wishes he materializes in his neurosis. If this were not true, every neurotic having sufficient time, money, and knowledge of the existence of psychoanalysis would seek treatment, instead of the few who do. The conscious wish to get well is in itself not a powerful enough incentive to force an impotent man into treatment. It is not that the inner sense of guilt is not strong in every case of impotence; it is. But the deposition of this guilt determines the accessibility of a person to analysis. If the inner wish to suffer—the penalty which the neurotic pays to his inner conscience for his unconscious fantasies—is absorbed completely by his real difficulties, the neurotic will not seek treatment. The fact that the deposition of inner guilt is "favorable" or "unfavorable" gives a clue immediately as to the prognosis of the case. If a patient says that his wife has sent him, or that he just feels that "one should be normal," the therapist is justified in doubting the possibility of "mobilizing" guilt feelings in analysis. The same holds true of the man who reports that a conscientious physician "discovered" his potency "difficulties" accidentally, when consulted by him about varicose veins, when, as a matter of fact, his "little difficulties" have prevented his penetrating his wife during a marriage of 12 years, and represent the most ominous form of all potency disturbances, premature ejaculation through an unerected penis.

Then there are those cases of patients who run from one physician to another, submit to every treatment, for instance, hormonal therapy, but have never heard of Freudian psychoanalysis. Even in these cases one has to go into details. It must be determined whether the patient's level of intelligence warrants the conclusion that he could have found out about psychoanalysis. In discussing with the patient why he seeks treatment, one must not be deceived by tears and self-pity. A typical statement is the following: "That I suffer is immaterial; but that I cannot satisfy my poor wife gets me down." It is usually uttered by a patient having premature ejaculation, indicating strong aggressive tendencies toward the woman.

2. *Knowledge Not Used.* Instructive are the following two cases: A primitive, uneducated man who married at the age of 33, without previous sexual experience, found himself completely impotent. He consulted his family physician, who gave him hormonal injections to no avail, and sent him away, saying: "Young man, God did not give you any sex; you may as well adjust yourself to that fact." The patient less fatalistic, wrote to a well-known psychiatrist, having read somewhere that impotence had, as he expressed it, something to do with a "sick head," and was sent into treatment. The other case was that of a physician who consulted a friend, a well-known neurologist, because of his potency disturbance, after having tried all known antidotes himself. The neurologist recommended the writer to him, giving him a great buildup and showing the patient his book on impotence and reports of recovered cases, on which cases the neurologist had checked personally. Still, the good advice took 14 months to be fruitful!

Nobody denies that potency disturbance is consciously disagreeable and humiliating for the man. Still, persons who are too prone to resign themselves to their fate or who do not make use of their knowledge of the existence of analysis may justifiably be suspected of wanting inwardly to cling too tenaciously to their respective neuroses.

3. *"Morning Erections."* A time-honored and obstinately clung-to misunderstanding is that erections with which many men awake in the morning, with or without recollection of a dream, are the re-

sult of fullness of the bladder. It is not difficult to find the reason for this misconception: Since the psychic component of an erection has always been underestimated or, often, unknown, physicians of olden times had to find some organic explanation of the undeniable phenomenon. The idea of fullness of the bladder, causing mechanical pressure on "nerves"—as one patient quoted his doctor—thus came in handy. Strangely enough, not even the advocates of this theory were consistent enough or convinced enough of the correctness of their interpretation to use it in the cure of impotence: Were the theory correct, the simplest way of curing impotence would be the advice *not* to urinate for hours before attempting intercourse. It is possible, however, that even today some enemy of analysis will promote this remedy. He will prove only that Oliver Goldsmith's statement, "Every absurdity has its champion," is correct; he will not "cure" even one impotent patient. An amusing, anatomically-based psychologic contradiction in the theory that "fullness of the bladder" can cause erections lies in the fact that the "remedy"—urination—is temporarily impeded by the swelling of the verumontanum (colliculus seminalis). One patient stated: "I wake up with an erection, go to the bathroom, and cannot urinate. I am scared to death for a few seconds." Castration fear is thus brought into the problem. Some patients complain that these morning erections are painful; others, that they persist for a long time, sometimes showing a pseudopriapistic character. Very few impotent patients view morning erections as proof that "sex is not dead." One patient entered analysis more because he was frightened by the "bad sign" of morning erections than because he was concerned about his impotence.

Whence come "morning erections?" They are the direct result of unconscious sexual fantasies producing specific dreams. The result of sexual excitement is the erection of the penis. The difficulty in establishing the truth of this banality lies in the fact that there is a too-prevalent assumption on the part of the layman that dreams have no meaning at all, and therefore cannot produce or, more precisely, accompany something so "significant" as an erection. The fact, however, is that dreams are, as Freud showed us 50 years ago, as important a part of our daily lives and psychic

equilibrium as breathing, eating, and sleeping. Moreover, dreams and sleep are identical. True, we forget our dreams often enough. This does not prove, though, as naïve persons are wont to believe, that nature provided us automatically with a regulative mechanism to eliminate senseless ballast. It proves only that powerful unconscious forces are at work, to enable us to forget our dreams. To put it differently: If you look at Fifth Avenue in the early morning, you find it meticulously clean. Does this cleanliness prove that the sewer below the surface is clean, too? Quite the contrary; because all the dirt was removed, the street is clean. Dirt in the sewer *below* the surface, and cleanliness of the street *above* the surface are directly interrelated. The normal, that is, not too neurotic, person can function relatively well during daytime *because* his neurotic components are taken care of in his dreams during the night. Neurotics go one step further: Instead of modestly enjoying their neurotic tendencies in dreams only, they enjoy unconsciously the same tendencies symbolically during the daytime, too; that is, they produce neurotic symptoms and signs. It is amusing to observe the horror with which neurotic patients in progressive stages of psychoanalysis react to the interpretation of recurrent dreams expressing their specific repressed wishes, since they believe that even their dreams should be "cured." "When will I dream normal things, Doctor?" they ask. The disappointing answer is, "Never. There are no 'normal' dreams." Our purpose in analysis is not to change dreams, but to confine the remnants of neurotic tendencies, which even the most normal person harbors, to the harmless territory of dreams, which are quickly forgotten and harm no one. The fact that dreams are repressed in the morning does not mean that they are meaningless. It means that the neurotic tendencies expressed in them work in a preventive manner automatically, and do not require conscious participation. Dreams are a self-regulated sewer.

To evaluate correctly the rôle of dreams in our psychic balance, let us remember Freud's observation that dreams represent an attempt to return to the prenatal narcissistic stage and a flight from the unpleasantness of disturbing reality, and thus they help sleep to fulfill its physiologic function. How can this narcissistic retirement for the night be nonetheless intrapsychically impaired? By

unfulfilled unconscious wishes and reproaches of the unconscious conscience. The narcissistic unconscious ego has to fight *two* disturbers. The perfect dream overcomes both obstacles by fulfilling in a hallucinatory way the pressing unconscious wishes and refuting the reproaches of the unconscious conscience.[8] It accomplishes both in a symbolic and pictorial way, much as a painter translates thoughts into images. The result is remarkable: We are enabled to get rid of disturbances, to continue to sleep, and to wake up refreshed.

What is the significance of morning erections caused by dreams? In normal conditions, these erections represent an outlet for the childish, repressed forms of sexuality and aggression. One might object: Why should a man with well-regulated, satisfactory, and regular sex life awaken often with erections? Doesn't he have enough sex? Attempts to increase the amount of normal intercourse, however, do not diminish his morning erections. The reason is an obvious one: Normal *adult sex* and *dream sex* are by no means identical. A patient consulted the author once, complaining about morning erections. He feared them, believing that he could ruin his sex life by "misuse" of his organ. At first he had tried to have more intercourse, with the result that he got even less "rest" and continued to have morning erections. Asked of what his dreams consisted before awaking, he described a typical dream: He saw some girl pressing herself toward him and making "queer movements" with her lips. He could not identify the girl; he compared her lip movement to "chewing some delicious candy."

The majority of normal persons awaking with morning erections are less frightened by them than was the hypochondriac gentleman just described. They are in general indifferent to them or proud of their sexual strength, or use them for conscious fantasies. Very few use them for intercourse, since most *normal* individuals have an outspoken and justifiable reluctance to make use of them

8. For details of this theory of dualism see "Instinct dualism in dreams," by Jekels and Bergler, presented at the Thirteenth International Psychoanalytic Convention in Lucerne, 1934. Published in Imago, 1934, and Psychoan. Quart., 1940. The writers' conception, which is based on Freud's theory of "life and death instincts," explains the frequency of infantile sexual wishes in dreams not only on the basis of their relative quantity but also as mobilization of libido as a defense against derivatives of the "death instinct."

for this purpose, based on preferring to achieve erections from sexual excitement, consciously approved, brought about by their partners, with or without some preparatory acts. *Neurotic* persons also show this reluctance, but it is one which they can ill-afford and presents more of a problem in them than in normal persons. It is as if people realize that their sex lives in dreams and in real life are separate entities. If one asks a man with weak potency if he uses his morning erections for intercourse, one sometimes has the impression that he does not realize that such a procedure is possible or feasible. Some men are surprised by the question, and rather ashamed of not having made such an obvious attempt themselves. Others are hostile to the idea altogether, and insist that they should achieve erections while fully awake. Those neurotics who use these erections out of necessity are often disgusted with themselves, especially since the "transport of excitement" fails them only too often, and the erection collapses in the attempt to have intercourse. Whatever the rationalization may be, people have some instinctive feeling that those erections stemming from dreams are not "proper erections," to quote a patient. This patient also said laconically: "Erections and erections are not the same."

Sometimes such erections are considered by neurotics to be "fake" erections. One patient declared: "For years I have been incapable of achieving any but morning erections accompanied by dreams. I have tried to use them, but have failed, usually because the erection collapses before insertion. Sometimes I'm even glad of it; it would seem like fraud or infidelity to use them—they pertain to other women, who excite me in dreams. What right have I to use them with my innocent wife. . . ?" Once more one sees the clear cleavage between dream sex and adult sex.

So far this discussion has proceeded under the assumption that the morning erections are in connection with unconscious sexual wishes and fantasies, which also produce dreams. The writer has used "sexual," of course, in the popular sense of the term. But what about dreams which seemingly have no sexual content at all, which accompany erections? One must remember the well-known fact that *pregenital* fantasies and activities are analytically subsumed under sex, too. The confusion between the *popular* con-

ception of sex, which implies intercourse, and the *analytic* conception, which implies the whole realm of infantile stages of sex as well, thus becomes apparent. The patient mentioned before, who was excited by a dream-girl who pressed herself toward him, making queer movements with her lips, called his dream a sexual one, despite the fact that no intercourse was involved. He recognized the dream as sexual because the girl's pressing toward his body and her fellatio-movements of her lips gave him the erection. People know only too well what importance these preparatory acts have in producing sexual excitement. Of course, the patient was not aware that what really excited him was the girl's taking the initiative in sex. She was active, he passive. Interestingly enough, it never occurred to him that he was never active sexually in his dreams, but always played the part of the seduced girl.

The writer asks prospective patients about their morning erections chiefly in order to find out the type of dreams typically associated with them. An additional purpose is to find out to what degree the patient succeeds in his "self-cure." A survey was published in "Newsweek" of April 17, 1944, based on interviews of 131 women about their private lives. "Family Survey Gives Keyhole View of Nation's Domestic Preferences" was the title. Among the interesting discoveries were the following: "Forty-eight favored sleeping on their stomach; 43 preferred the right side; 24 the left side; and 15 slept on their backs. Only one rugged individualist had no choice. Thirty dropped an arm over the side of the bed while sleeping; 32 extended a leg. . . ." Of some importance for present purposes, were the following data: "Twenty-six wives reported that their husbands had awakened them in the night during the week of the survey. *Eight said this was on purpose;* the others, that it was accidental." One has reason to guess that all 26 men made use of their morning erections. Only eight were obviously successful. And even with regard to these eight cases, one may be permitted further doubts, according to Disraeli's saying that there are three types of lies, simple lies, damn lies, and—statistics. Perhaps the eight ladies of the survey were too sleepy or frigid to find out what happened after the attempt was made.

4. *Influence of external difficulties on sex life.* External difficulties, such as serious problems concerning economic or social

status, health, etc., absorb like a sponge in specific circumstances libidinous tendencies, with the result that sex life becomes practically nonexistent, for a certain length of time. The problem is to determine whether these worries are used as a pretext to avoid sex or are real, and even if real, are not tendenciously exaggerated. Women are in general intolerant of such "excuses," as they call them, and see in abstinence just "lack of love." Sometimes they are right, and the man in question is just fed up with his wife; but sometimes one has to give the man credit for his worries.

5. *Married or bachelor—Why?* When a patient in the 40's tells the therapist that he has never married because he has had to take care of his mother, who lives with him, one is as justified in being suspicious as when a patient informs one that he has been divorced three times. In general, people are very polite during their first interviews concerning their wives. They describe the shrew as being "in general very nice" and the golddigger as being "under the bad influence of a girl friend." One must disregard such phrases and ask leading questions, when the patient is married: Did you marry because of love, convenience, money, social position, or on the rebound? Do you feel disappointed in your wife, and why? Sometimes the complaints lead the way directly to the understanding of the problem. For instance: An impotent businessman loved a "nice and good-natured" girl, whom he did not marry because he did not earn enough at the time. A few years later he fell in love with an aggressive girl, whom he did not marry, this time because she was "too spoiled and selfish." On the rebound he married shortly thereafter an "only child, who hated her mother and turned out to be a selfish brat." He provoked his wife with neglect to such an extent that she shifted her interest to other men. Furious jealousy resulted, followed by official forgiveness and self-torture. Obviously, the man wanted unconsciously the reconstruction of the situation of being mistreated, and therefore avoided girl No. 1 in order to get girl No. 3, overplaying his passive game, repressing of course, his unconscious feminine identification.

6. *Sexual daydreams.* Daydreams (fantasies) are of two kinds: narcissistic or sexual in content. It is in general difficult to get a precise answer to this question, but the question is worth while, be-

cause clues are sometimes found in the answer. It is significant, for instance, when a man tells us that in his daydreams a beautiful woman invites him (in other words, takes the lead), or when he tells us that *he* seduces a beautiful woman. Sometimes mention of the form of sexuality practised during these fantasies tells us the specific sexual wishes (fellatio, cunnilingus) which the man does not dare satisfy through his wife.[9] On other occasions one finds the childlike tendency of exclusion of Oedipal competition; for instance, when a man tells us that he daydreams consciously that he is the only man on a desert island full of beautiful women. And so on.

7. *Worry over health.* This question points clearly to hypochondria or castration fear, present in quantitatively different degrees in every neurotic, perhaps even in every human being. Patients are at first reluctant to admit this type of self-torturing self-observation. It is found in many specificities: The penis is too small. The testicles are "undeveloped." The heart is too weak for "strenuous" intercourse. Digestion is disturbed, etc. One patient, for instance, stated that he had observed constipation on the day following intercourse; in other words, he inwardly identified sperm and feces, retaining the latter after having "spent" too much of the former. The most typical complaint is the smallness of the penis, in itself a ridiculous one, because patients refer usually to the unerect penis, which is without importance as a yardstick, since only a part of the erected penis enters the vagina, anyhow.

8. *The patient's own theory concerning his troubled potency.* The purpose of this question is to determine the amount of retaliation-fear concerning masturbation. In eight of 10 cases, the patient suffering from potency disturbance holds masturbation responsible for his troubles. This mistaken belief can be immediately disposed of: Not masturbation in childhood and puberty *per se,* but the guilt-laden fantasies behind it, are the danger. The question as to whether the patient still masturbates is better left unasked, though justifiable suspicion may exist in a specific case. The writer has known of patients who have left after the first ap-

9. Another problem is, of course, what these special "wishes" do represent or what they cover unconsciously.

pointment with beginners in analysis, simply because this question was asked—and hit the nail on the head.

The number of at least superficially silly rationalizations encountered in patients' own explanations of their troubles is boundless. To mention only a few: One patient believed his potency disturbance was caused by his wife's insistence that he masturbate her on the clitoris, after his ejaculation. Instead of understanding his wife's frigidity and his own fear of the allegedly "castrated" woman, he believed that masturbating her "damaged" him. Another man complained that he damaged himself by "having intercourse with his finger." Asked to explain what he meant, he quoted his wife as saying that she was tired of being married to a finger. His frigid wife believed that his technique was faulty. Instead of having intercourse in the vagina, she believed that one should rub the penis on the clitoris . . . Another man entered treatment because of, as he stated, premature ejaculation. Asked how long his intercourse lasted, he answered: "Approximately 30 or 40 minutes." "Well, a normal intercourse lasts from two to 10 minutes," was the writer's answer. The surprised patient had understood as premature ejaculation his inability to protract intercourse until his wife's orgasm came. Since she reached one, seldom enough, only after an hour, she accused him of having premature ejaculation; and the man, a "big businessman," swallowed this nonsense, which caused him a strong feeling of guilt, for exactly 23 years of marital life.

9. *Frequency of intercourse.* The question as to whether intercourse is practised at all would seem at first to be superfluous. In reality, it is not, for a large number of neurotics remain permanently bound to their infantile masturbation. Here one meets with several variations. There are neurotics who avoid having any sexual contact whatsoever with a woman. Others marry as a sort of alibi, and even have intercourse occasionally without experiencing pleasure, while parallel with this "official" sexual life, there runs another "unofficial" one, devoted to masturbation. It is certain to appear very strange to anyone not specializing in this subject when the writer points to the fact, to put it paradoxically, that intercourse and intercourse are by no means the same thing. For workers in the field of psychoanalysis, it is a matter of course that

we obtain the most exact information on the attending circumstances and the manner of intercourse, before we draw any conclusions as to the sexual health of a man. To us, intercourse in itself is very far from being an evidence of health. Otherwise, a perverse masochist, let us say, who is sometimes able to have intercourse after a prostitute has beaten him, should be rated as "normal." It would be the same for persons who derive their desire for intercourse from watching children being beaten. Or the neurotic who can have an erection only on condition that he imagines other women during intercourse, whereby he denies the presence of the real woman with whom he is having coitus, thus having a sort of "masturbatory intercourse" (Ferenczi). We believe that sexual excitement should be derived from the real body of the woman with whom the sexual act is taking place, and that the rôle of the man should be more or less the leading one.

If a patient, therefore, says that he has not practised intercourse for years, although he has had a real opportunity to do so, the physician may at once suspect the presence of a neurosis, that is, an illness of the unconscious. At the same time there is every probability that such neurotics, whatever their ages may be, practise masturbation. And here care should be taken that the usually untrue statements of these patients are not allowed to mislead the doctor. A statesman of the 1880's once said that most lies are told about hunting or at election time. But the writer believes that lies about sex can equal this record and probably beat it. If you ask one of these sexual abstainers why he does not have intercourse, he will give you a series of arguments which sound more or less reasonable: fear of venereal diseases or of making a woman pregnant and, as a consequence possibly being blackmailed or forced into marriage. Lack of time is even offered as an excuse. If you ask them why other people have intercourse, in spite of these dangers that undeniably exist, the patients reply that those people are just not careful. As a particularly crass example should be mentioned the statement of an impotent man, 35 years old, who gave as a reason for not having had intercourse with his wife even once in the past 10 years that he had been unemployed for a long time so that his wife had had to earn their living, and he had just not had the heart to make her, on coming home tired from work, submit to the

"exertions of intercourse." Following the suggestion of our distinguished English colleague, E. Jones, one calls such statements "rationalizations." Here an unconscious matter is remodelled by that part of the "ratio" (reason) which feels the need of explaining a given action, but is remodelled in such a way as not to offend the person's self-esteem. It would certainly have been more painful for the writer's patient to admit to himself that he was impotent, that is, ill. It was pleasanter for him to represent this symptom, which so wounded his self-esteem, as a kind of self-sacrifice. According to this explanation, it was not his illness but his "kind heart" that prevented him from having intercourse. In these "rationalizations" one is not dealing with any *consciously*-told lies. Quite the contrary. What one has here is an *unconscious* mechanism of deception, which is not easy to destroy, as the patients are taken in by it themselves.

Therapists must not allow themselves to be deceived by the rationalizations of neurotics. However, it is in no way a simple matter to see through these rationalizations. The writer calls to mind, for example a woman with agoraphobia, prevented by unconscious causes from going out into the street, who gave as her rationalization a list of statistics about traffic accidents! At all times one must compare the neurotics with the average human being.

Now if it is asked how often, on the average, the healthy man has intercourse, one meets with a difficulty, as only a very general and approximate answer is possible, because the erotic desire of human beings in general and at specific times varies a great deal. Common experience shows that, when intercourse is practised regularly, the sexual act is performed once or twice a week. But a divergence in favor of greater frequency is possible. Extreme infrequency is just as suspect as extreme frequency. When one meets with men with priapistic erections, who are continually talking about women and intercourse, one may also be suspicious. Hyperpotency can be just as much a neurotic symptom as impotence. The proof of this is that the average healthy man, after having relieved his sexual tension is, so to speak, "left in peace" by his sexuality for the time being, much as a hungry man, after he has had a hearty meal, will not immediately begin to speak about the next one, but is able to turn his attention to other things. Later, ex-

amples will be given of some neuroses which are hidden behind the mask of hyperpotency, where the hyperpotency represents an unconscious defense mechanism.

10. *Is intercourse undertaken from a feeling of duty or because of sexual need?* One is dealing with the fulfillment of a desire conditioned by instinct. There is, however, a far-reaching superstructure built upon the foundation of this physical instinctive urge. So it comes to pass that the average healthy man will enjoy sexual activity only when he feels love at the same time. Quoting Freud, we say that the "tender" and the "sensual" components of the healthy man's sexuality are united in his feeling for the one love object. The everlasting talk about the allegedly polygamous disposition of the male is, in reality, a covering cloak for neurosis. There is, for instance, a Don Juan type, who runs from one woman to another, is unsatisfied with each one, and compulsively seeks the next, where he experiences the same disappointment. One can in no way deduce the sexual healthiness of a man from the great number of women with whom he has intercourse; indeed, the contrary is rather the case. For, if one analyzes men of these Don Juan or Casanova types, it is often found that they are unconscious homosexuals, who *must* be disappointed in every woman because they are in reality unconsciously looking for a man. Or one may find an infantile repressed desire for revenge. Because they imagine themselves to have been in some way disappointed or ill-treated by those persons who took care of them when they were children, these Don Juans identify the women with these persons and now bring disappointment to them in turn, through their compulsion to abandon them. Sometimes men of these types are aroused, not by a real woman, but by their own unconscious fantasy of aggression, carried out against the woman in the act of leaving her. In other words, if these men remain for any length of time with one woman, they prove to be completely impotent.

The splitting off of the "tender" from the "sensual" components (Freud) of sexual feeling leads to the most tragic consequences. Thus it happens that men who do this construct two types of women. One type they idealize, look up to, set upon a pedestal; the other type they look down upon, degrade, despise. With women of the first type, these men are completely impotent.

With women of the second type, they are potent. Assume that a man of this sort marries a woman of good social standing with the finest human qualities and excellence of character. To his horror, and in spite of his love, he proves to be entirely impotent with her. His horror increases when he finds himself beset with sexual desire for prostitutes, whom he has always despised, or for women of bad reputation, and finds that with these his potency does not fail him.

One must, therefore, obtain exact information as to the causes of the wish for intercourse. There are men who, in their marriages, perform the sexual act only from a feeling of duty. Inwardly they are completely uninterested in women. They carry out the sexual act mechanically, like a burdensome task. It is clear that in these cases the danger of sexual failure is especially great, unless psychoanalysis is resorted to.

Of greatest importance, is the fact that for many people the element of *doing something forbidden is linked with the idea of sex*. This is simply a result of remaining on the infantile level, where sex and the "forbidden thing" are identical (Freud). If, therefore, in marriage sex is not only not forbidden but even expected, sex with the wife becomes unimportant, even boring for some neurotics. This is one of the decisive reasons that sex in typical marriages deteriorates.[10]

In other cases—of oral regression—the idea of refusing sex is in itself the pleasure-giving reason for abstinence.

11. *Choice of partner for sexual intercourse.* If there is no particularly sharp cleft between the "tender" and the "sensual" components of feeling, they will both find satisfaction in the same object. But if such a division is present, it brings about with absolutely compulsive force a preference for prostitutes and women of bad reputation. Thus, if a patient says that he is interested only in prostitutes, there are grounds immediately for the suspicion that a situation of unconscious conflict is present. A patient is just as suspect who asserts that he loves his wife but is not so-called sexually interested in her, and prefers "frivolous affairs."

10. For a compilation of sexual tragedies in marriage see the wroter's book, "Unhappy Marriages and Divorces." Int. University Press. New York. (In print.)

12. *Details regarding the erection.* The average healthy erection is strong and lasting enough so that the penis may be inserted into the vagina and may be used for the frictionary motions. The corresponding neurotic manifestions are: capricious erections, lasting only a few seconds; erections that are strong at first, only to sink again at the first attempt to enter the vagina; or erections that sink during the first attempts at friction. In addition, disturbances of erection may be complicated by those of ejaculation, to which the writer will return later for further discussion.

Important conclusions may be drawn from the way in which the erection occurs. A healthy erection takes place very quickly through psychic stimulus, furthered by optical and tactile stimuli coming from the woman. One may rate as pathological everything which runs counter to the usual conception of male activity; for instance, the wish to be beaten, or to lie under the woman, or anything that denies the reality of the woman or seeks to degrade her. A certain patient used to demand that his sexual partner describe to him, in obscene words, during intercourse a sexual act with *another* man. He practised intercourse, so to speak, incognito, by identifying himself with this other man. But if he tried to have intercourse on his own, as it were, or if the woman refused to comply with his request for the obscene narrative, he became completely impotent. In all this, an important part was played by his degradation of the woman, in forcing her to tell obscene stories, to the level of a prostitute, thus achieving aggression toward her and carrying out also, in a round about way, his unconscious homosexuality. Furthermore, it must be accounted a sign of illness when certain perverse actions are added to the preparatory sexual activities. Under this heading come urolagnistic or scatological practices and all practices which endanger the bodily integrity of the love-object, such as stabbing, cutting, burning, etc.

13. *Desire to insert the penis into the vagina.* The healthy man's erection is accompanied by the imperative urge for insertion. When this is not the case, when, in spite of erection, insertion is not attempted or when the man waits for the woman in his bed to "seduce" him, he is suffering a potency disturbance. In the case of some neurotics the very thought of an attempt at insertion is enough to make the erection disappear. This occurs, for in-

stance, when the unconscious part of the personality associates the idea of intercourse with too-strongly aggressive fantasies, when the harmless frictionary movements are regarded as piercing, stabbing, making an opening between vagina and anus. As a defense against these aggressive or sadistic ideas, the erection disappears. Exactly the opposite takes place in the case of men who are too passive, and who need to be "seduced." Here the difficulty springs, not from too much, but from too little aggression. These patients unconsciously act the part of the small child who wishes passively to be cared for, fed, and caressed.

Here the writer wishes to draw attention to a complication which is quite common, that is, that the phenomena alone will teach one little about unconscious origins. As his examples have shown, the same result appears in the case of the man who is too aggressive as in the case of the man who is not aggressive enough.

The writer refers to absence of the wish to enter the vagina. Thus, the same symptom may have quite different causes. For this reason, one must try to get down to the cause in each individual case, and must guard against drawing too general conclusions by analogy.

In some cases, an erection is used only for narcissistic purposes. An impotent patient was deeply disappointed narcissistically that he could not achieve erections. One day he reported that he had had for the first time an erection with his virginal wife. "What did you do with this erection?" the writer wanted to know. "What do you mean?" was his surprised answer. "Well, did you use the erection, or were you satisfied with the erection itself?" "The latter," was the patient's laconic reply.

14. *Duration of intercourse and manner of ejaculation.* The typical duration of intercourse is from two to 10 minutes. Pathologic aberrations are: premature ejaculation after a few frictions with a stiff or half-stiff organ, or lack of ejaculation ("psychogenic aspermia") despite intercourse of a half-hour duration. These cases typically give the impression of lack of libido and are treated hormonally. As far as they are psychogenic, hormonal treatment has suggestive effect only and does not help in complicated cases. For an evaluation of these cases see Part III of the present paper (to appear in a later issue of this QUARTERLY) and

for a discussion of differential diagnosis between organic and psychogenic cases of potency disturbances and of hormonal therapy, Part IV.

It is especially important to determine in what form ejaculation occurs. Normal ejaculation takes place in rhythmic expulsions accompanied by active bodily movements, *maximal erection* and rhythmic contraction of the muscles of the perineum. We find an opposite picture in pathologic cases where the semen flows out forcelessly from a *flaccid* penis without rhythmic contraction of the muscles. All cases accompanied by disturbances of ejaculation are to be classed as very complicated ones.

15. *Usual manner of performing coitus.* The purpose of this question is to give support to the first diagnosis; and, indeed, all the informative questions enumerated can do no more than this. It is especially knowledge of the position assumed during intercourse which allows one to draw a conclusion. However, it would be wrong to imply that every divergence from the average position for intercourse is in itself suspicious. It is suspicious only when habitually assumed, or when it has even become a necessary condition for potency. The divergent posture most frequently assumed is the "succubus" position, in which the woman is above and the man below. Practised for the purpose of variation, this has no significance as a neurotic sign. The same hold true of "*coitus a tergo,*" where the penis enters the vagina posteriorly. The quantitative factor is of decisive importance; these variations become signs of neurosis when there is an inner compulsion to perform them or when they grow to be the "*sine qua non*" of intercourse. The difference is between "may" and "must."

To make clear the significance of the manner of performing intercourse, let us draw upon two instances from psychic pathology. A painter living in a condition of direst poverty made his wife pregnant every year, and stated as his reason that he could enjoy intercourse only with a pregnant woman. Analysis discovered unconscious death wishes against wife and child. Another man was potent only when he had intercourse with a woman who was menstruating. His unconscious wish was partly to do the woman bodily harm, partly to degrade her, as most women avoid being with a man at such times, and are even ashamed of their own genital organs.

16. *Degree of participation and excitement during intercourse.* As a rule, the sexual act in its advanced stages shuts out conscious thought. For the last half minute or so, the act absorbs the entire psychic energy. Therefore if a man tells you that during the whole of the sexual act he speaks or thinks about business or other interests, or carries on a conversation about unimportant matters with his partner, you may assume with the greatest degree of probability that he has a neurosis. Some neurotics have an inner fear of being carried away and out of themselves, and are tense with the effort to keep up a show of self-control. For some this process has become automatic; they are rigid and cold, and go through the sexual act as though it were some social formality. The conclusions about this symptom, however, are not reversible, and one cannot conclude that a person is free of neurosis solely because he seems to participate psychically in the sexual act, though one may conclude that a man who does not have this feeling of participation is neurotic. What absurdities such neurotics produce are visible in the statement of a patient, who informed the writer that the only form of sex he liked was fellatio. "This is the only form of so-called sex which allows you to read your newspaper undisturbed. . . ."

One meets with a special form of disturbed feeling of participation in a sort of artificially-produced symptom. Men who practise coitus interruptus must concentrate on watching for the right moment to withdraw, and so artificially disturb the physiological course of the act. If practised for any length of time, coitus interruptus leads eventually (after a period varying from a half-year to a year or more) to a series of psychogenic symptoms. On the whole, this form of intercourse is dangerous, because it is as undependable in its preventive effects as it is conducive to neurosis, though only after a rather long period of incubation. In light cases it will be found sufficient to discontinue the practice, although it may leave consequences which are much more difficult to remove.

17. *Activity of the imagination during intercourse.* This is present much more frequently than is usually assumed. Here again, in judging the significance, we shall see that the quantitative factor is of major importance. Between the complete exclusion of activity of the imagination during intercourse of the heal-

thy man and the compulsive necessity to indulge in fantasies in neurotics of certain types are all sorts of transitional stages. Occasionally the image of another woman may creep into the mind of even a practically average man, especially when his sexual partner has lost her real or imaginary charm. The neurotic of a certain type *must*, during the sexual act, picture another woman to himself, while the healthy man *may* think of another woman now and then.

18. *State of feeling immediately after intercourse.* The practically healthy man, on completing the sexual act, has an agreeable feeling of languor, is pleasantly serene, even joyfully optimistic, feels tenderness for the woman, and later has the wish to sleep. The neurotic does not experience this optimistic mood. He is depressed, dissatisfied, or disgusted; he nags about everything and disparages or despises the woman. Now the world is made up of many neurotics and few healthy people, so it has come to pass that the opinion of the world in general on this point is that of the neurotic. Hence the proverb: "*Post coitum omne animal triste.*" In reality, it is only the neurotic who feels "sad" in this situation.

19. *Ability to sleep after intercourse.* Freud said, half a century ago, that the best sleeping medicine is sexual satisfaction. This statement holds good today, in every respect. Therefore, if a patient says that it is usual for him not to be able to get to sleep for hours after having had intercourse, you can be sure that the sexual act does not furnish him adequate satisfaction, and feel justified in suspecting a neurotic disturbance. In most cases of sleep disturbance one finds also matters pertaining to the next subject:

20. *Depression, fatigue, and disturbance of the ability to work on the day following intercourse.* The healthy man, on the day following a satisfyingly consummated sexual act, is filled with mental and physical freshness and vigor. When this result of intercourse is lacking, experience shows that neurotic disturbances are present, which find their heightened expression in fatigue, depression, and disinclination to work. Furthermore, the sexual tension is not relaxed, as in the healthy man. On the contrary, the neurotic continues to be pursued by his pseudo-genital desires. The writer

says "pseudo-genital" because these neurotics cannot find adequate relief from tension in genital sexuality. Here is an explanation of one of the types of hyperpotency. The continuous tension indicates, not a greater ability to be satisfied, but the practical impossibility of being satisfied at all. Think of the example already given of the unconscious homosexual, whom no woman can satisfy because he unconsciously desires a man.

This vain endeavor of so many neurotics, to obtain satisfaction through continual intercourse for desires which really have nothing to do with intercourse but refer to other wishes of the unconscious, draws them into the following vicious circle: They are continually held in a state of sexual tension, which interferes with their ability to work because it absorbs all their libido like a sponge. When they do have intercourse, however, they go from the woman in a state of complete dissatisfaction, and are depressed and unable to work. The result is that they are unsatisfied with and without intercourse. The tragedy of these men is to be explained by the fact that only healthy people may find adequate satisfaction in genital sexuality. The neurotic tries to react in the same way as a healthy man, but hidden causes predestine him to failure.

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RESISTANCE TO INSULIN AND THE PRODUCTION OF DEEP "SHOCK" WITH INSULIN AND METRAZOL

BY BERNARD S. STELL, M. D.

Most psychiatrists think that schizophrenic patients may be improved by hypoglycemic "shock" therapy only if an adequately low level is obtained and then maintained for definite periods. They believe that in some way the insulin changes the physiological makeup of the patient and that, thus, improvement occurs. Gralnick[1] recently stated, "Insulin produces effects in the patient which set the stage for a very special type of interpersonal play." He stressed the psychological approach to the patient and felt that perhaps that aspect of the treatment had been overlooked. It is not the purpose of this article to say whether it is the insulin, the deep coma, the type of therapist or the accessories during the treatment that bring about the improvement in the patient. Whatever it is that produces the favorable change in the patient, one thing is certain, coma, and at times deep coma, which according to Rossman and Cline[2] means absent corneal reflex and more or less constricted pupils, is needed to produce within the patient a susceptibility to psychotherapy. Steinfeld[3] and Gruenwald[4] in 1942 noted that in treatment-resistant cases, deep insulin coma (maintenance of the medullary phase for at least 15 minutes) was helpful when other methods failed. But what can be done with the patient who shows resistance not only to the treatment but also to the effects of the insulin itself?

Theories have been advanced to account for the failure in some cases of insulin to produce the desired depth of coma and level of hypoglycemia, but no practical explanation or method of control has been evolved. Joslin[5] stated that the first unit of insulin was more effective than the next one and that the first 10 units were more effective than the next 10. He asserted that whatever insulin the body did not utilize, it excreted or destroyed. Reznikoff and Scott[6] stated that neither 120 nor 1,000 units of insulin when injected intravenously produced any significant difference in the degree of hypoglycemia in insulin-resistant cases. Hall[7] reported a case of one patient who two hours after the first injection of 20

units of insulin showed only an 18 mgm. per cent reduction in the blood sugar from a normal of 88. After 59 treatments and with a dose of 1,000 units of insulin, the blood sugar dropped from 115 to 80 mgm. per cent. The attempt to produce shock was unsuccessful. In this patient's serum, a definite ability to inactivate insulin *in vitro* was found. It was suggested that this might be due to an excess of the pituitary diabetogenic or glycotropic factor. Horvath and Friedman[8] held that schizophrenics were able to tolerate large doses of insulin because of a probable derangement of the autonomic nervous system. Fraser, Albright, and Smith[9] claimed that the glycotropic hormone of the anterior pituitary gland inhibited the action of insulin. More recently, Rynearson[10] stated that there were practically no instances of the development of antihormones following the injection of such hormones as insulin.

Many methods have been used to assist the injected insulin to overcome the patient's resistance to its effects. Goldfarb,[11] using the divided dose of Kant, injected the insulin intravenously and found that it reduced the amount of insulin needed to produce coma. Tillim,[12] using the von Braumühl zigzag method, found that it increased the patient's sensitivity to insulin. But contradictory results have been noted with the methods mentioned; and Miller[13] asserted that about two out of three patients spontaneously developed a hypersensitivity to insulin and then could be carried on less than one-half the original effective coma dose. When a patient shows resistance to insulin, it is not advisable to wait for the patient to develop spontaneously an increased sensitivity. The production of sensitivity to insulin is important from two points of view. Unless the patient is sensitive enough to the insulin, he will not develop adequate degrees of coma, and improvement may not be obtained. If a patient can be made comatose with 100 units of insulin rather than 500 or more, then there will be a notable saving in the amount of insulin used.

The answer to this problem of resistance to insulin is at present lacking; it, perhaps, may be just beyond the grasp of the facilities which we now have at our disposal. When the disruption in personnel caused by the war is over and when newer chemicals, apparatus and methods are again available we may yet come to some definite conclusions concerning this unsolved problem. However,

while we await the newer developments of the future, speculation on such an intriguing problem is not amiss.

The keeping of graphs on all patients receiving the hypoglycemia treatment at the Buffalo State Hospital showed that whenever a patient had a spontaneous grand mal convulsion, the dose of insulin needed in subsequent treatments to produce the same depth of coma was usually smaller. In some patients, there was a dramatic drop in the dose required. This observation was a lead. Would it not be possible by means of induced convulsions to reduce the amount of insulin required by each patient? If that were possible, might not the same means be used to break down the resistance that some patients showed toward the effects of the injected insulin? If this resistance could be broken down, there would be a great saving in time, and money; less insulin would be used, and patients would be improved sooner and perhaps more permanently.

Metrazol was used to produce the desired convulsions because it was relatively inexpensive and fairly easily administered. It should be noted that Sakel[14] thought metrazol was the drug of choice in certain types of resistant cases and said that, "The therapeutic value of the epileptic seizure in certain cases was recognized from the beginning of insulin shock treatment."

The hypoglycemia therapy department at the Buffalo State Hospital in 1942 was organized as a mobile unit. For a period of three months, men were treated in the male continued treatment building; and, then, for the next three months, women were treated in the female continued treatment building. For purely local reasons, the shift was arranged to coincide with the entrance into the hospital of a new group of affiliating nurses who comprised 66 per cent of the personnel in the unit. This arrangement, therefore, necessitated the production of coma in the beginning of the treatment in as few days as possible, particularly because treatments were given only five days a week.

The dose of insulin given at 7 a. m. was built up rapidly; at times, as many as 60 to 80 units over and above the previous day's dose were given. No unusual reactions were observed as a result of this rapid increase in dosage. With this method, patients developed coma of the desired depth within four to seven treatments. If they did not develop coma within 10 treatments, and if the dose

of insulin was above 500 units, they were considered resistant to insulin. To these patients, the combined insulin-metrazol treatment was given with the hope that sensitivity might be increased and that at least 40 fairly deep comas might be administered in the remaining weeks. The hypoglycemia was terminated after four to four and one-half hours by means of 30 cc. of 50 per cent glucose intravenously. As soon as the patient was awake, he received eight oz. of a molasses solution and a sandwich. To overcome the exhaustion produced by the hypoglycemia, each patient received salt tablets, and at least eight ounces each of orange juice and vitaminized malted milk. Those patients who received metrazol did not receive any different treatment except as follows: The dose of insulin was so judged that by 10 a. m. the patient was in coma for 30 minutes and had a positive Babinski reflex for at least one-half of that time. The solution used was 10 per cent metrazol in 2½ per cent aqueous solution of sodium citrate. The usual dose of this solution was 3 to 7 cc. injected rapidly into the median cubital vein. In some patients, this was preceded by three minutes by a subcutaneous injection of 0.72 mgm. of strychnine sulfate in order to sensitize the patient to the metrazol injection. This strychnine was not considered as an active agent in the reduction of the patient's resistance to the insulin. If one injection of metrazol did not produce a grand mal convulsion, another injection was not given the same day. As soon as the patient recovered from the convulsive movements, the hypoglycemia was terminated intravenously. On the following day, the patient received a smaller dose of insulin but no metrazol.

Because of the limited number of schizophrenic admissions to the Buffalo State Hospital, the selection of suitable patients for the hypoglycemia therapy was not very good. The majority of the patients were mentally ill for more than one year. Table 1, for a one year period, 1942 to 1943, shows that rather well.

Figures 1 to 4 show individual reactions. Referring to these graphs, patient D had 57 treatments and 12 spontaneous convulsions; the third convulsion occurred three minutes after termination of coma with intravenous glucose, and the eleventh occurred two minutes after termination. Patients H and K received 300 units of insulin at 7:00 a. m. as is indicated by the letter D on the

TABLE 1

Duration of illness	Number of patients
0 to 6 months	18
6 months to 1 year	9
1 year to 1½ years	11
1½ years to 3 years	11
3 years to 10 years	7

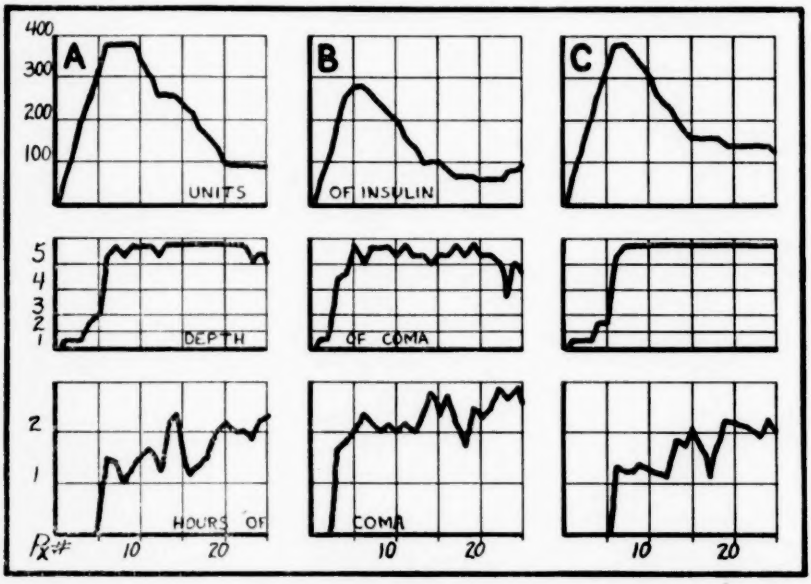

Figure 1, patients A, B and C. The development of "normal" sensitivity to insulin.

300-unit level on these two graphs. The remainder of that particular daily dose was given at 8:30 a. m. Patients A, B and C show the characteristic drop in the dose of insulin in the usual hypoglycemia-treated patient in the Buffalo series. Patients D, E, F and G show the effect of a spontaneous convulsion on the required dose of insulin. The letter "S" indicates the treatment during which the convulsion occurred. Patients H, I, J and K show the effect of an injection of metrazol, indicated by the letter "M," and the convulsion produced by it indicated by the letter "C." The depth of coma was recorded according to Frostig's[15] tabulation. An arbitrary division of the last three stages into three phases ac-

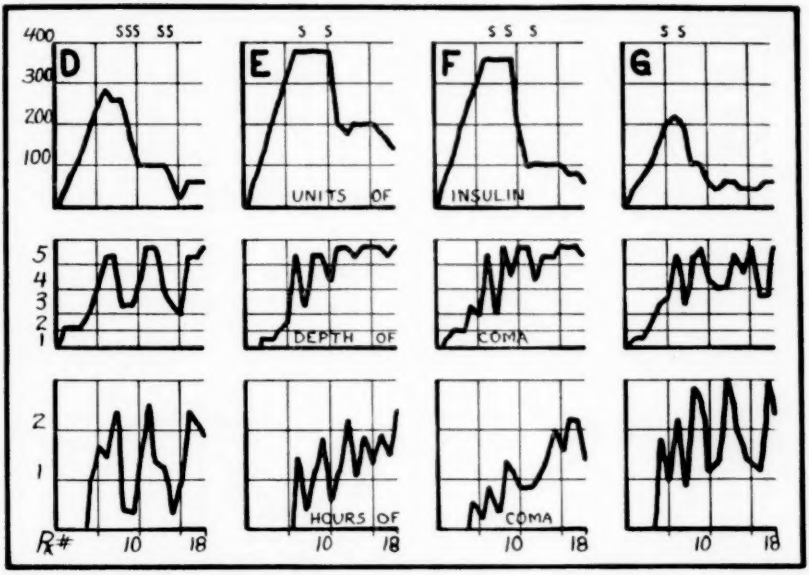

Figure 2, patients D, E, F and G. The development of sensitivity to insulin after a spontaneous grand mal convulsion indicated by the letter "S."

cording to the length of time a patient showed that phase was attempted. Following Vander Veer and Reese's[16] suggestion, coma was recorded from the time the patient was unable to respond adequately to voice or touch. Some workers have recorded onset of coma from the appearance of a positive Babinski reflex. However, in the present series of patients, there was a wide discrepancy between times of appearance of the Babinsni reflex and the patient's inadequate response to voice or touch. This agrees with Heiman's[17] observation. Only the fifth stage and its three phases need concern us here. The appearance of some of the early signs of the fifth stage was recorded as early fifth. Middle fifth meant that the patient presented absent corneal and Babinski reflexes and had contracted pupils. Late fifth meant the presence of pin-point pupils and a double inspiratory sound, or the presence for 15 minutes of absent corneal and Babinski reflexes, and tonic extensor spasm. Some patients were carried in the late fifth stage for longer periods than 15 minutes with the respiratory rate and rhythm as the chief criteria for immediate termination with intravenous glucose.

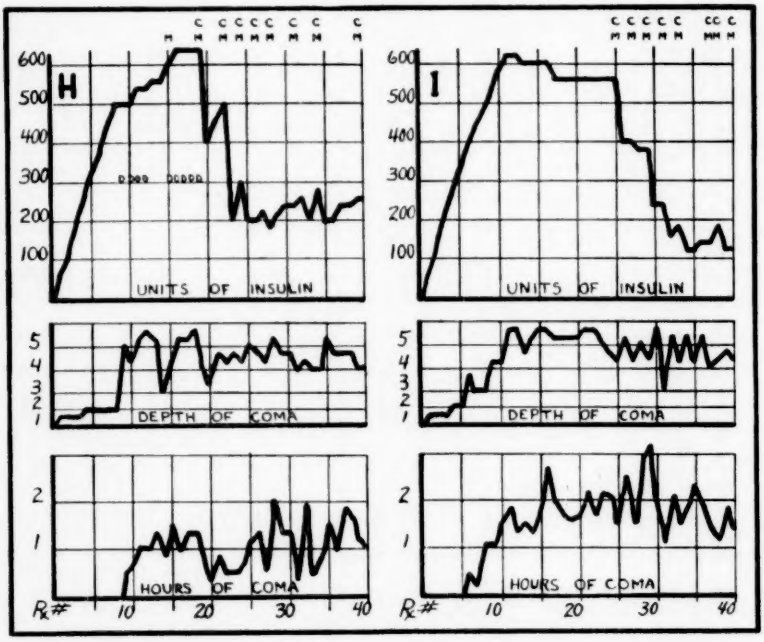

Figure 3, patients H and I. The development of sensitivity to insulin after a metrazol ("M") induced grand mal convulsion ("C"). "D" indicates that the dose of insulin was divided at the level shown.

In spite of careful observation, four protracted comas resulted. Three of these occurred in patients in whom such a disturbance was not expected because of the depth of coma and previous behavior during and after termination with intravenous glucose. Table 2 represents the important data on these protracted comas.

Twenty-one patients received the combined insulin and metrazol treatment, receiving from three to 10 injections of metrazol. Eight more patients received metrazol once or twice, purely as an experiment, and are not considered in this paper. In three cases, metrazol was thought to be the chief factor in producing a recovery which is still maintained after nine, 11 and 14 months. In eight cases, the metrazol was responsible for having initiated the improvement. Of the six insulin-resistant cases, one was treated by the zigzag method, with a development of sensitivity after the fortieth treatment. Two received metrazol late in the treatment, and

TABLE 2

Patient	Duration of psychosis before treatment (in mos.)	Treatment number during which protracted coma occurred	Number of treatments given after protracted coma	Duration of protracted coma (in hours)	Temporary Korsakoff syndrome	Condition one month after termination of treatment	Final Outcome
S. F.	10	12	38	9	No	Much. imp.	Discharged
B. K.	16	5	18	10	No	Much. imp.	Discharged
S. M.	1*	28	0	48	Yes	Imp.	Discharged
M. S.	34**	10	0	56	Yes	Unimp.	On parole

*Had a previous admission and previous treatment with insulin. He remained in a condition of full remission for 18 months.

**Had been treated previously with insulin but was unimproved.

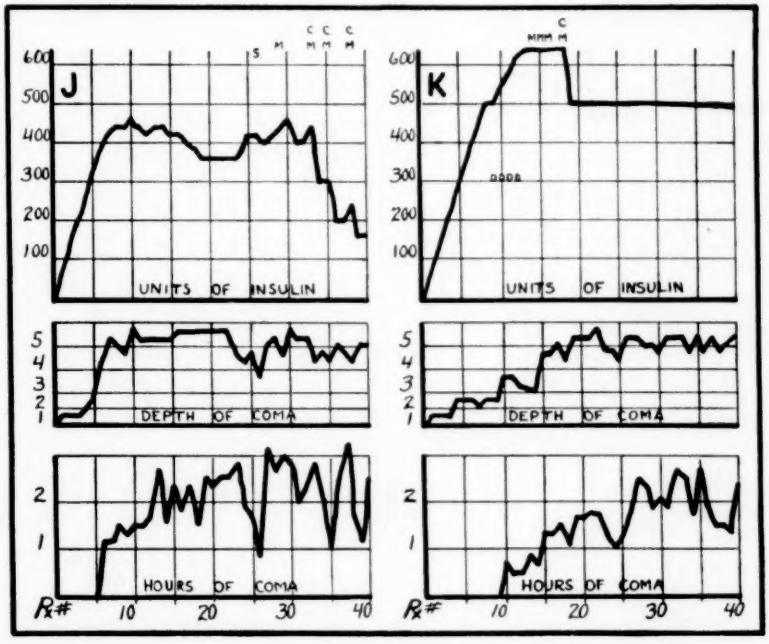

Figure 4, patients J and K, again showing the development of sensitivity to insulin. ("M") metrazol-induced grand mal convulsion ("C"). "D," dose of insulin divided at the level shown.

no definite conclusion can be drawn. Three received metrazol, and a definite increase in sensitivity was noted. Of the 14 patients resistant to insulin treatment, seven were helped by the added metrazol injections.

Table 3 shows that of 56 patients treated 78 per cent were improved and 70 per cent paroled. Most of the nine that had to be returned from parole had been mentally ill for over one and one-half years and had been only improved by the treatment. Two of the nine were from the much improved group and one from the unimproved group. Taking cognizance of these latter nine patients, the effective parole rate becomes 53 per cent. Considering that one-half of the patients treated had chronic illnesses, the effective parole rate compares well with other reported results.

TABLE 3

Duration	Recovered	Much imp.	Imp.	Unimp.	Total	Metrazol	Paroled	Returned
0-6 months								
Result	5	6	4	3	18			
Metrazol	1	1	2	3		7		
Paroled	5	5	4	1			15	
Returned			1	1				2
6-12 months								
Result	3	2	4		9			
Metrazol	3	1	1			5		
Paroled	3	2	3				8	
Returned								
1-1½ years								
Result		3	5	3	11			
Metrazol		1	3	2		6		
Paroled		3	1	2			6	
Returned		1						1
1½-3 years								
Result	2	1	7	1	11			
Metrazol		1	7			8		
Paroled	2	1	5	1			9	
Returned		1	5					6
3-10 years								
Result			1	6	7			
Metrazol				3		3		
Paroled				1			1	
Returned								
					56	29	39	9

A search of the available literature did not reveal any satisfactory explanation of the effects that the metrazol had on these insulin-resistant patients. Tillim[13] presented graphs which showed that some patients were made more and some made less sensitive to insulin after injections of metrazol, but he did not mention metrazol as the responsible factor. He attributed that to the patient's physiological makeup. Cobb[18] stated that metrazol produced hemorrhagic lesions in the basal ganglion and cerebral cortex. It has also been noted that metrazol causes dilatation of the cerebral vessels. Gillhorn[19] claimed that metrazol through its central anoxia produced a sympathetic stimulation and that the hypoglycemia increased sympathetic adrenal discharges.

Others working on related subjects offered varying opinions. Grinker[20] stated that damage to the paraventricular nucleus of the hypothalamus increased sensitivity to insulin, and Duncan[21] described this structure as being very vascular and as having control of the sugar metabolism. Wirtschafter,[22] without mentioning any particular hormone, stated that hypoglycemia might be found associated with a hypofunction of the anterior lobe of the pituitary gland. Neuwahl[23] noted that nicotinic acid produced a well-marked depression of blood sugar levels in normal subjects, possibly as a result of greater activity of the enzyme system responsible for carbohydrate metabolism. Joslin[5] stated that hypoglycemia caused a congestion of the cerebral vessels. Vander Veer[16] reported that experiments on animals showed that repeated deep insulin shock, as used therapeutically, produced only reversible changes which were practically limited to meningeal hyperemia. Rasmussen[24] noted that nerves showed signs of malfunction, not so much from actual trauma to the nerve itself but from the injury to the vascular structures surrounding the nerve.

From the foregoing, it can be seen that reports are not all in agreement as to the changes that may be present after "shock" therapy with insulin or metrazol. The present writer would be tempted to say that the changes in the circulatory system of the brain structures, especially the hypothalamus, probably produce the favorable effect on the schizophrenic patient. The added general muscular contractions that occur during a grand mal convul-

sion or during the hyperkinetic stage of insulin reaction may also have some bearing on the improvement that patients show.

Summary

1. No definite conclusions can be drawn from the observations presented in this paper, because of the small number of cases.

2. Metrazol was helpful in initiating improvement in patients who were resistant to hypoglycemia therapy.

3. Metrazol was able in three cases definitely to break down the patient's resistance to the effects of as high a dose of insulin as 700 units.

4. With the aid of metrazol, deeper hypoglycemic coma on less units of insulin was possible.

5. It was possible by means of 4 cc. of a 10 per cent metrazol solution, costing 10 cents, to save many hundreds of units of insulin, costing approximately 10 cents per 80 units.

6. The mechanism by which metrazol effected the changes noted cannot be explained.

Acknowledgment

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RECREATIONAL THERAPY FOR THE CHRONIC ALCOHOLIC*

BY JOHN EISELE DAVIS, M. A., Sc.D.

This discussion aims to develop an impressionistic study of recreational therapy in its general and specific application to various types of chronic alcoholics observed over a period of 20 years. This observation of the chronic alcoholic in recreation was made at Veterans' Administration and other institutions in various parts of the country, such as the Institute of Living. Most of the work was done at the United States Veterans' Administration Facility, Perry Point, Maryland, in which very comprehensive recreational activities, including swimming, golf, bowling, baseball, softball, tennis, table tennis, badminton, shuffleboard, billiards, croquet, horseshoes and formal calisthenics are available.

Play is considered in some of its psychotherapeutic relationships. Merrill Moore tells us: "In the last analysis, psychotherapy, in or outside an institution, (combined with the use of drugs) offers the best prognosis to the alcoholic who wants to help, who wishes to get well and who is receptive, not resistant, to treatment."

What Does Play Mean?

At the outset, it must be recognized that any evaluation of recreational therapy in this specific relationship requires a careful study of just what play means and how it is meaningful to the chronic alcoholic. It is important to determine how far and in what manner a recreational program can fit into his characteristics and personality and how it may find a practical therapeutic application to his defense mechanisms of escape and aggression.

Adolf Meyer refers to the distinctive psychological make-up of the chronic alcoholic when he emphasizes: "The nondependability of inhibitions, the shallow sham euphoria, exaggerated bragging and vanity and the effort to cover up and avoid situations that bring one to a test, the ease of producing excuses and attributing failure to the situation: all lead to vitiations, to dishonesty, to anticipations and distrust and suspicions in the less optimistic

*The Research Council on Problems of Alcohol made suggestions which the author found helpful in the preparation of this article and which he wishes to acknowledge.

moods." He continues: "It is difficult to know how the use of alcohol fits into the various patterns of personality as it does, except as a means of releasing tensions by allowing the drinker to strike the common level of his associates without strain." He again states: "It is most probable that alcohol customs and habits are developed as a means of bringing together congenial spirits." The literature generally points to the necessity of the therapist determining the personality make-up of the alcoholic and his distinctive social need as a basis for the program of rehabilitation.

In a sports activity such as golf, the chronic alcoholic can make friends. He gains a feeling of belonging. Here, there is a natural relationship, in which one's desires to excel, to praise, to blame, to laugh, to ridicule are allowed expression. In play, he may find the realization of many desires which have been thwarted in the more responsible levels of work and society. A patient, in explaining his interest in golf, stated that he felt free, he did not have to fill out a questionnaire or give his life history with an account of his previous debauches, procedures which had irritated him in the psychiatric examination. Others spoke of the pleasure they gained from the intimate and friendly relationship of fellow-players. A number of patients said that they played golf on Saturday afternoons to keep from going outside and getting drunk.

Many case histories have indicated that alcoholics whose inebriety is a secondary consideration can make their best adjustments to an environment which is sympathetic to their distinctive personality inadequacies. It appears probable that the community will adjust itself to its weaker members as a necessary corollary to the adjustment of the patient to society. In handling these cases, the therapist soon learns how much importance the patient attaches to any psychological material which he can control and which will give him the sense of satisfying, even to a minor extent, the public and also his own egocentric nature. The alcoholic yearns for such media.

Of the many distinctively satisfying factors which play holds for the chronic alcoholic in this situation, the aspect of modifiability is one of the strongest. The alcoholic is enabled to fashion the play situation so as to meet his peculiar personality demands. He may become the "don't care type" consciously or unconsciously,

divesting himself of the weight of responsibility. On the other hand, he may go to the other extreme as he improves in skill or in a game in which he has natural aptitude, by assuming a very serious and positive attitude. In this latter situation, he may have an opportunity for an expression of affirmative tendencies such as exaggerated bragging. He may complain about the facilities, the equipment, the attitude of his opponents. Play seems to motivate him to a more extroverted type of behavior. He becomes more likely to unburden himself. Play becomes an important adjunct as a catharsis. Feelings of guilt and anxiety may be mitigated in the spontaneous play reactions.

The aspect of friendliness in recreation is an important factor. In most social relations the chronic alcoholic feels that he is greatly misunderstood and in many cases is not wanted. This is understandable for, of the 75 voluntary general hospitals that answered a questionnaire—distributed during the course of a study sponsored by the Research Council on Problems of Alcoholism—22 definitely stated that it is against their policy to admit alcoholics. Most of the remaining hospitals accepted only a few. This fact, coupled with the indifference or actual hostility of the public which as a whole still considers alcoholism a moral problem, has caused the alcoholic to become resentful. This resentment may prove an important factor to be treated and overcome if possible in psychotherapeutic approaches. This is shown in the alcoholic's reaction to play situations. He is very likely to rebel against any authoritarian methods. He is generally against overly-technical interpretation of rules. He desires wide latitude in play techniques and resents too much advice. Many alcoholics have chips on their shoulders and do best in a confident and reassuring atmosphere.

Choice of Activities

Moore states: "All games, sports, interests and hobbies are valuable to the alcoholic if you get him to accept them, and we should train the alcoholic to learn other ways of relaxing without alcohol in work, play and recreation."

The present author's experience has been limited largely to male alcoholics ranging from 18 to 50 years old, the larger number of

whom were in middle age. For this latter group, golf has proved the most popular sport, with bowling a close second choice. Third, comes billiards, with shuffleboard fourth. Cards and such games as bingo have also proved popular. More strenuous games such as baseball, badminton, table tennis, softball and volley ball have attracted very few of these patients. Of this group, the largest number who were attracted to the strenuous games have played baseball.

Generally it seems that the chronic alcoholic prefers a type of recreational activity not overly strenuous. This may be explained by Edward Allen's belief that the chronic alcoholic wishes to "create a favorable impression without too much conscious effort." While there was a tendency for the younger and more active patients to elect more strenuous activities, such as baseball and volleyball, the general tendency was for all types to accept less strenuous play than one would ordinarily expect from persons of their age levels. There appears to be ground for the belief that the alcoholic has suffered a lowering of his psychological tolerance for physical participation, and is more attracted to, and does better in, activities which do not take too much strength and which are softened by the social *milieu* which meets his distinctive personality level.

Specific Techniques

Meyer informs us that: "The modern treatment of alcoholism aims to reduce the facts of the case to an open pattern of plastic and constructive experiment, necessarily individual but concrete and specific in its workings on and with the patient's own material and cooperation. The emphasis is put on the facts of the person and his situation rather than on but one dominant resource or trick of the therapist and certainly on more than mere exhortation. . . . A great share of the work, therefore, lies in a better understanding of the social as well as individual resources of satisfaction for the patient."

It is the belief of the writer, from his experience, that play, as a psychotherapeutic measure in the treatment of the chronic alcoholic, should emphasize the following steps and considerations. It must be realized at the beginning that we do not know whether

there is one cause or many causes for alcoholism; whether there is a single chemical deficiency, for example, or many social or psychological precipitating factors as outlined by Moore. In its present stage of development, recreational therapy should be accepted primarily as a psychological aid. While the physiological factors of exercise are undoubtedly helpful in the production of better bodily health and in the creation of metabolic balance, this aspect is considered of secondary importance.

One of the most important needs is a closer liaison between the psychotherapist and the physical therapist. The general psychotherapeutic approach has been mostly an oral process. Alan Gregg has called attention to the necessity for a more adequate psychotherapy based upon meaningful activities; for example, elements of catharsis, reidentification, reinforcement, projection, sublimation, fixation, compensation, etc., are present in many play situations. The psychotherapist should observe such situations and should also, of course, obtain from the physical therapist, reports of behavior which has such significance. It is true that the physical director in many cases is unacquainted with these psychiatric mechanisms. More adequate training in this field is of paramount importance. In his contact with the chronic alcoholic, the author has made it a habit to discuss such therapeutic situations with the patient's psychiatrist, and has obtained his suggestions and directions as to the most effective psychotherapeutic approach and methods.

The number of patients a physical director can handle depends, of course, upon the individuals, the facilities at hand and the general therapeutic setup. In golf, the physical director can obtain very close observation and cooperation with as many as 25 patients per day. In bowling, a much larger number could be handled. But since the personal contact is a prime factor, it is believed that a group confined to not more than 25 a day would produce the best therapeutic results.

Among the psychological aids, the therapist, in the relaxing atmosphere of a game or a sport such as golf, may be enabled to get the patient's story. In such a natural and spontaneous relationship, the patient frequently will unburden himself and tell you why he drinks, why he started, etc. For example, patient "X" played

golf with the physical director regularly without divulging anything about himself. He would frequently brag about his score and seemed to find pleasure in "lording it" over less skillful fellow-players. One day, while playing with the physical director, he made an exceptionally fine score up to the last hole. He topped his drive and dubbed one shot after another. He became infuriated and began to blame himself for failure to play "the finest game in my life." He then began to talk quite volubly about his failures, explaining that his tendency to "blow up in a pinch" was a result of his domineering father who had never allowed him to do what he wanted to do. From that point, the patient went on to give his own ideas as to the psychological basis of his alcoholism.

The second psychological aid in recreation is suggested by Moore: "Gaining the patient's confidence and encouraging him to want to get well is often difficult because the alcoholic is usually so discouraged that he does not trust anyone, not even himself. There is probably no relationship more effective in creating a sense of confidence than a play activity. In playing golf with many alcoholics over a period of years, the writer has noted a slow but gradual increase in the confidence of the players and, in many cases, a marked improvement in social feeling and expression. Some of the patients with very poor motor control, however, became discouraged and gave up the activity. The therapist will note an apparently significant relationship between an improvement in bodily control through recreation and an increase in intensity of the positive attitudes of confidence and aggression. There is also the tendency in the cocksure domineering types to find a more acceptable social level through the natural leveling process of the game.

The third psychological aid would emphasize the reenforcement of a patient's positive attitude toward getting well. The writer has often told a patient who has made a good score on the bowling alleys that such a record is evidence that he can do other things and that anyone who can lead in a sports activity might well be able to do more than hold his own in the more responsible work relationships. It seems advisable to explain that qualities of leadership and ability so naturally engendered in a game can and should be applied to a real effort to get back on the job. A chronic alco-

holic who was given to extreme tantrums proved to be such a disruptive influence that other patients refused to play with him. Playing by himself, he improved his game considerably and became more friendly with others until he was selected as captain of a team. His attitude began to change, and he became not only acceptable to the others but rather popular. From this point of social readjustment, he improved until he was discharged from the hospital.

The fourth step in the use of recreation as a psychological aid is to assist the patient to accept the emotional nature of his problem. He must be helped to reeducate himself emotionally. The therapist should emphasize the fact that a suitable sport is one of very best means for the attainment of relaxation which the patient has been accustomed to accept as possible only through resort to alcohol. The athletic field is one of the best places to teach him to accept defeat as well as victory. He must be conditioned to a healthy chagrin resulting from losing, as well as a nonbraggart attitude in victory. The sport should aim to encourage and direct the patient to analyze play situations carefully so as to develop the most effective strategy and get the best results. This naturally will assist the patient in using the intellect to quiet his emotions. A chronic alcoholic who had a habit of long hesitation over the ball was encouraged by the instructor to go up and hit it, regardless of where it went. This was not very effective at the beginning, but the man found that it improved his score in the long run. From this beginning, he became more analytical and attempted to improve his stance and general form. While he showed little improvement in these latter attempts, he became more stable emotionally as he directed his energy into more purposive channels.

Patient "X," 44 years of age, was diagnosed as a chronic alcoholic with a psychoneurosis. The son of a rather severe father and an overprotective mother, his family adjustment was further complicated by a successful brother who kept reminding him of the "road to success" and the hard work and self-denial it entailed. The patient was sensitive as a child and gave definite indications of always trying to placate others because of a deep-seated feeling of inferiority. This was compensated for by a meticulous atten-

tion to stenographic work in which he had much natural ability. At the age of 18, he began to drink to build himself up from excessive fatigue, as he expressed it. This feeling of excessive fatigue was the main complaint of the patient and seemed to be the controlling conscious factor leading to his resort to alcohol, which gradually increased until, after six years, he became an addict.

"X" was very nervous and depressed, and his attention was "flighty" when he entered the hospital at the age of 44. He had good contact, however, with his environment. Friendly rapport was established. A former secretary to a large industrialist, the patient, after making sundry excuses to explain his many inconsistencies, began to do clerical work in the office of the physical director. This work was balanced by cards, bowling and golf. The man made quite a study of bridge, writing a summary of the Culbertson system of bidding in contract bridge, and engaging in regular games with a few select friends, most of whom were chronic alcoholics. While playing bridge, he frequently became so fidgety that he would have to get up and walk around the room before returning to the game. In bowling, he was more stable, being able to "stay on the job," as he explained it. His most interesting reaction, however, was to golf to which he took avidly, playing two or three nine-hole rounds each day, and at times, playing as many as six rounds.

The patient adopted a markedly unconventional stance while addressing the ball. He explained quite affably that this position appealed to him as being the best from the standpoint of his comfort and motor efficiency. In spite of the advice of the better players as to the improvement he might gain from a more conventional stance, he continued without change. Always most pleasant, he promised to change as he improved, but did not do so. His general demeanor was that of someone trying to placate others who were interested in him. He employed a sort of pseudocooperation, making many acknowledgments of their assistance and advice but doing nothing about it.

In spite of his poor motor form, the patient improved with daily practice and received a medal during the "Annual Award Day" exercises as the most improved golfer of the year. This recognition seemed to stabilize him, and for a period of approximately

seven months, he abstained from alcohol. He became intoxicated, however, after waiting two months for a job which he thought was offered to him but which did not materialize. After this episode, he returned to golf with even increased interest. He explained that when he felt like taking a drink, he "took it out on the golf ball;" and this seemed to him the most stabilizing activity he could find.

The following year, he played golf every afternoon, making from two to six rounds each day. This, with bridge, made up his main regular recreational outlet. His ability to concentrate on the ball was markedly increased and his emotional integration was much improved. He was more relaxed, and the tension which had disturbed him was less evident. He was abstinent.

He requested leave from the hospital to obtain employment, and finally found a job as an electrician's helper in a large naval center near the hospital. He felt that he needed work with his hands and had no desire to do office work again. It was significant that, while inquiring about the possibility of accepting such a job, the patient asked if he might return regularly to Perry Point for golf, since he thought this recreation would be helpful to him in keeping on the "water wagon." This permission being granted, he agreed to take the job. For over a year up to the present time, he has continued to work and has received a number of promotions. He returns to the hospital regularly for recreation and states that his nonalcoholic readjustment has been made possible through the sustaining interest of recreation. Note: It should be understood that there is no "nineteenth hole" on this golf course. It is entirely within hospital grounds, and there is no opportunity to obtain any alcoholic beverages.

The marked unconventional stance characteristic of this patient is believed to be representative of a large number of patients with whom the author has played, and suggests an area of psychiatric research, which would be to determine: (a) the presence of a possible "motor-fixation;" (b) its relationship, if established, to the underlying symptoms and treatment.

Play as a Preventive Factor

Moore writes: "Many young people begin to drink in high school or college, or at dances or social functions, because they feel basically inadequate or deficient in self-expression. This feeling of insufficiency is due largely to repressive experiences in their lives and to frustration during their adolescent years, or due simply to lack of training and proper guidance."

This summation gives the basis for the use of recreation as a preventive aide. In talking to many alcoholics, the writer has been much impressed by their references to school situations which have proved, from their own estimations at least, to have been detrimental to mental stability. Overly-competitive play situations, unfair balancing of teams, hero worship for the winners and, at the opposite extreme, frequent criticism and even derision for the losers—these factors produced deep-seated feelings of resentment in some cases and possibly contributed to the foundations of their characteristically inadequate make-ups. One of the patients told of a game in which the more alert were permitted to play "within the circle" and those less skilled were relegated to the outer fringe. "I have been on the outer fringe ever since," he complained. This patient is extremely resentful of these early experiences and asserts that his resultant drinking allows him to "blow off steam" and thus relieve his upset nervous energy.

Moore explains: "The things that build up what psychologists call 'effeminate identification' or a 'defeat pattern' in a man, tend to lead to the alcohol pattern. These things are parental dictatorship or pampering by the parents, and a failure in a boy to establish a good relationship with his father or other man." This points to the importance of parents playing with their children as an added factor in preventive hygiene.

Another important aspect of the possible rôle of recreation as a preventive measure has to do with the psychology of play. Play should be presented to the boy or girl as a realistic balancing of experience in which one may gain exercise of his moods so as to strengthen him in the battles of life. "Sissies" should be enabled to gain reinforcement for positive attitudes through a natural program of activities which will not exact too much from their

motor controls or their personalities. Some alcoholics will explain that there never has been any appreciation in their homes of the value of play and will assert this to be one of the factors leading to their defeatist patterns.

Group or Individual Approach

The writer's experience seems to confirm the viewpoint of Meyer, who states: "Much of this work of adjustment is carried on upon a strongly individualizing basis; even then, in the end, there will always be persons who do best when treated in groups, with the help of a sense of belonging and being accepted. . . ." Some patients of an introverted type appear to respond better in an individual type of recreation such as bowling, while others of an extroverted type may adjust more satisfactorily in a group activity such as baseball. A group relationship may be helpful in the projection of definite leveling processes. The patient who will not listen to the therapist will more probably be influenced by fellow-players. The objective nature of play activities has strong therapeutic possibilities for the alcoholic. The bragging egocentric patient may find a natural corrective tendency in such statements of fellow-players as, "Look at the score; it speaks for itself."

Personality of the Therapist

There appear to be two viewpoints as to the most effective personality type for the recreational therapist.

Strecker feels that the therapist should refuse to deal with anything except the mature segment of the drinker's personality. In attaining this therapeutic status, the therapist must adopt an objective and realistic attitude. The most suitable personality for such an attack would have the primary qualities of calm, emotional poise and objective realism. Such qualities as intimate friendliness would have to be carefully balanced with a cold objectivity.

The second main viewpoint would lay more emphasis upon an intimate and reassuring approach in which the emotional tone would be warm and even protective. Friendliness would be the primary aim to assure the best rapport. Recreational activities

would be utilized as a medium through which the patient might naturally awaken and develop a desire for social activity and collaboration. Experience confirms the fact that in such a softened atmosphere, many alcoholics will develop a desire to take part. This latter viewpoint emphasizes the "infectious personality," to use Adolf Meyer's expression. The therapist should be skilled in the psychiatric viewpoint, rather than trained exclusively in play techniques. A poor athlete but a good psychologist might be successful while a poor psychologist but a good athlete would not.

Evaluations

There is but the most meager material upon which to base any evaluation of recreational therapy in the treatment of the chronic alcoholic. Many psychiatrists in private practice advocate recreation as a general therapeutic measure without making any specific application of the type of activity to the individual. Challman and Moore write: "The right sort of recreation is often an excellent way to keep him in the right path." Other investigators believe that recreation assists the drinker to keep a good front and that his "increased self-confidence and sense of power and capacity and decision, a tendency to generalizations and freedom of manner" may find an ideal outlet and some measure of therapeutic resolution in such an activity as golf.

James H. Wall and Edward B. Allen, in reporting on 100 cases in the New York Hospital, Westchester Division, say: "These patients enjoy the physical education and occupational therapy program. They frequently crave excessive and exhaustive activities and in the beginning resent direction and instruction. Later they see the need for this in achieving better coordination and more satisfying accomplishments for their efforts. Many of these patients need the relaxing value of play and comment that this becomes a substitute for the relaxing effects of alcohol."

It is suggested that correctional institutions, despite their disciplinarian environment and general restrictions, might explore the merits of recreation as a therapeutic adjunct.

The Louisville General Hospital has a complete psychiatric unit utilizing recreational therapy among other approaches, as does the Charles B. Chapin Hospital of Providence, R. I. These in-

stitutions treat small groups, however, which do not form the basis for any definite determination of the value of recreation. It is probable that, after the war, such facilities as are contemplated by California in its plans for inebriate colonies of 1,000-bed capacity will provide additional material for a more definite evaluation of these adjunct therapies.

General Conclusions

1. It is believed that recreation, to be most effective as an adjunctive therapeutic agency, must accept the basic problem of the chronic alcoholic as emotional and attempt to develop techniques with this as a primary consideration.

2. Recreational activities should give careful consideration to the feelings of inferiority, overdependence, social immaturity and other psychological limitations of the alcoholic. Alcoholics do best generally when they have accepted "subordinate rôles," work under sympathetic encouragement and are not held too rigidly responsible for the success of the activity as reflected in the highest score.

3. The aim of increasing the feelings of worth and importance of the patient through interesting activities appears to provide a practicable therapeutic objective.

4. Recreation as therapy for the chronic alcoholic should be studied as far more than a physical activity. It should be related to the total experience of the patient in such a way as to provide reenforcement for his positive attitudes so that he may be helped to develop confidence and will-power as he improves physical control. The therapeutic possibilities of an investigation of the interdependent relationships between physical and psychological control will in all probability develop more effective techniques.

5. The chief value of recreational therapy seems to lie in short segments of time, rather than in long relationships. Many alcoholics will grab at some sport for an immediate release of their tormenting tension. They will continue to play until they get on their feet and then, in many cases, will again resort to alcohol. As play techniques become more psychotherapeutic, it is probable that more definite and lasting results may accrue.

6. Strong egotistic trends are brought out in the recreation of the chronic alcoholic and, while apparently appreciating the most effective play techniques in others, he generally reverts to a closely centered individual form.

7. It appears that the chronic alcoholic demonstrates a tendency toward a "fixation" in his play motor forms. He shows a decided resistance to changing his individual motor pattern in favor of more effective play techniques. This lack of modifiability seems to be characteristic.

8. According to Dayton and his coworkers: "Alcohol is the outstanding common factor in the history of people coming to mental hospitals." This would seem to indicate a general resort to alcohol as a means of escaping mental difficulties; and, conversely, this points to the necessity of providing other methods of psychological escape, in which a comprehensive program of recreation might have a distinctively helpful rôle.

9. A play activity affords an ideal medium through which to project lessons illustrating the importance of, and rewards from, striving in cooperative as well as competitive efforts. One may learn in an infectious atmosphere how to play with, as well as against, people, the social motif gaining a natural emphasis.

10. Play must be realistic so as to overcome the mother-pampering environment of the alcoholic which is so frequently encountered. The patient should have as much as he can stand without loss of his emotional control.

11. Recreational activities are inherently intriguing and will enlist the active interest and participation of the alcoholic when other methods fail.

12. Alcoholics who have had the opportunity to engage in a comprehensive program of recreational activities ascribe important values to its diverting, cathartic and preventive influences. Recreational activities are of distinctive value in creating friendly rapport between therapist and patient. Play activities of the physical kind are generally acknowledged to be of value in restoring physical vitality and balance. It is believed, however, that this factor should be secondary to the psychological value.

13. Recreational therapy, especially in the form of zestful sports, has proved of value in substituting interests which may help to prevent a recurrence of drinking after the patient is discharged and has returned to the community.

14. It is the opinion of many experts that the chronic alcoholic should be treated in special institutions. In such specialized settings, recreational therapy would in all probability have an opportunity to become a more helpful therapeutic adjunct. It is believed that recreational therapy merits further study and use and should be explored more fully to determine and utilize its values.

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AN EVALUATION OF THE "SHOCK" THERAPIES

BY A. E. BENNETT, M. D.

The "shock" therapies, begun about 10 years ago as modern innovations in psychiatric treatment, are still under critical evaluation in all mental hospitals. The decline in extremes of enthusiasm and skepticism about results now makes possible a more scientific evaluation than formerly.

Methods and General Results

Insulin "Shock" Therapy. The overenthusiastic initial reports about the value of hypoglycemic "shock" as a treatment for schizophrenia have not fulfilled expectations. Loss of personnel because of the war and, even more, unsatisfactory results have reduced this method's use. In fact, many controlled studies indicate the final percentage of recoveries from schizophrenia is not higher in insulin-treated groups than in the controls.[1, 2, 3] Some observers still report encouragingly sustained results, especially in early cases, in about 40 per cent of patients treated.[4, 5]

A recent comprehensive study[6] of 1,128 patients with dementia præcox treated with insulin "shock" therapy in the New York State hospital system between January 1, 1937, and June 30, 1942, gives valuable comparative data. These cases were compared with 876 similar cases which received only routine hospital care. The criteria used to measure the effectiveness of insulin therapy were: the lengths of hospital stays, the subsequent ability of patients to leave the hospital and return to their homes, the durations of their stays at home, and the extent to which they were restored to usefulness.

This study shows a substantial difference in results obtained among insulin-treated and non-treated patients. As a group, the insulin-treated patients did substantially better in all respects. Of the insulin-treated patients, 79.5 per cent were able to leave the hospital as against 58.8 per cent of the nontreated group. Of the paranoid patients treated by insulin, 79.4 per cent were able to leave the hospital as against 52 per cent of the corresponding untreated group.

*Presented before the Missouri Psychiatric Association, Kansas City, Mo., November 15, 1944.

Insulin-treated patients had average hospital stays 3.8 months shorter than the nontreated. A consistantly higher proportion (58.9 per cent) of insulin-treated patients than nontreated (44 per cent) were still at home at the end of the study. At that time, patients had been at home for periods varying from five and one-half years to six months. Of all relapsed patients, two-thirds returned for further hospitalization within a year after discharge.

Of these patients subsequently hospitalized again, those previously treated with insulin remained at home on an average two months more than they spent in the hospital; while those rehospitalized who were not previously treated with insulin spent seven and one-half more months in the hospital than at home. These figures mean a saving of nine and one-half months of hospitalization for insulin-treated patients.

A larger proportion of insulin-treated patients, 71.1 per cent, returned to gainful employment as compared with the nontreated group, 60.6 per cent. As regards sex, the males profited more than the females from insulin treatment, both in ability to leave the hospital and level of usefulness attained.

The insulin treatment effected a saving of approximately 286,695 days of hospital care, which is a saving of approximately $80,274 in cost.

The commission concluded that insulin therapy produces substantially better results than nontreatment and that good results were obtained in those cases in which the prognosis without insulin usually is doubtful: patients in older age groups, those with illnesses of more than three years duration, and those with a gradual onset. However, the highest percentage of improvement occurred among those in whom the illness was of short duration. Even if we discount the difference in improvement between the treated and nontreated groups, the shortened period of hospitalization with the consequent economic saving seems to the present writer to warrant continued use of insulin therapy in dementia præcox. The findings of this commission are sufficiently positive to justify insulin treatment because of the benefit derived by the patient, his family and the community and the savings effected in hospitalization cost.

The controversy over technic, methods, prolongation, depth and number of comas as factors in results still remains. Actually, the treatment is far from specific and leaves much to be desired. The evaluation of schizophrenia, its diagnosis, prognosis and especially the effect of therapy constitute a very difficult problem.

One factor not adequately investigated is weight gain. In the writer's personal experience, good sustained results usually have accompanied a marked weight gain. The improvement in nutrition as an influence in recovery should be further studied and may provide the key to a more effective therapy. Likewise, psychological factors have not been adequately evaluated in this therapy. Insulin therapy in subshock doses for weight gaining purposes and the control of feeding problems has stood the test of time and is valuable symptomatic treatment in all undernourished psychiatric states.[7]

Subcoma doses of insulin are also valuable as a method of sedation, to control the patient's anxiety and excitement and to permit better psychotherapeutic approach. However, in alcoholics, the writer has seen unfavorable reactions; large doses of insulin should always be given with caution.

Metrazol Convulsive Therapy. Metrazol therapy has declined in popularity as electric shock has proved to be equally effective and less dangerous. Kolb and Vogel[8] have shown electric shock has been adopted more rapidly than either of the other methods. Already modifications under the name of electronarcosis[9] have been attempted, but so far no superiority of results has been shown.

Electric Shock Therapy. Electric shock is preferable to other convulsive therapies, because the patient has less discomfort and needs less care after treatment. The accompanying amnesia lessens fear of treatment. Finally, a larger number of treatments can be given in a shorter time with smaller personnel.

All authors now agree upon the advantages of the electrically-induced convulsions. No new drugs have been introduced that overcome the disadvantages and unpleasant side reactions of the convulsant drugs. All methods of subconvulsive shock (petit mal) reactions have failed to produce results; grand mal seizures are essential.

Electric Shock Therapy in Various Diagnostic Groupings

The Major Psychoses

Schizophrenia. The value of convulsive electric shock in schizophrenia is still controversial but evaluation seems to repeat that of experience with insulin: at first, overenthusiastic reports of remissions,[10, 11] now more conservative reports of relapses and ultimately disappointing results.[12, 8] The controversy also concerns technic and frequency and number of shocks to produce the best results. More radical therapists recommend, to produce sustained results especially in paranoid types, a large number of treatments (up to 50) producing profound organic sensorium defects equivalent to an amentia greater than that seen in lobotomized patients. Whether such intense therapy is justifiable has not been established by the evidence so far presented.[13]

Even though convulsive "shock" may not be of sustained value in schizophrenia, it is a valuable symptomatic treatment to control acute excitement in paranoid or aggressive patients. It is more justifiable to treat such a patient several times by induced convulsive "shock" than to resort to continuous restraint or excessive sedation. One also observes that hydrotherapy and packs are used less in institutions now using electric shock.

One group of schizophrenic patients who respond better than others to convulsive therapy are those with affective components, either mixed depressive or manic-like excitement states. Improvement in this class of patients always brings up the question of diagnostic accuracy and may very likely account for many of the discrepancies in the literature reports.

Affective Psychoses. There is no dispute as to the value of electric shock therapy in affective disorders. Initial reports[14] of the nearly specific tendency to shorten the course of a depression have been adequately confirmed by all investigators. Results have been surprisingly uniform, with 80 to 90 per cent of full or social "recoveries." Patients with manic excitement states respond almost as well but require more treatments and closer followups for possible relapses. At least 12 treatments should be given in acute manic syndromes and continued to 20 if necessary.

The results from convulsive "shock" therapy in involutional types of depression have been confirmed by all observers. It is generally agreed to be almost a specific treatment for these disorders. Nevertheless, reports are still appearing in the literature of favorable results obtained from the administration of estrogenic hormones. In the present writer's experience, estrogenic therapy has no value for these disorders. Valuable time and large sums of money are needlessly lost, and eventually most of these patients require adequate psychiatric therapy for lasting recovery.

The writer has recently reviewed and reported on[15] convulsive "shock" therapy in involutional states after complete failure with previous estrogenic treatment. In this study about 500 case records of psychoses and psychoneuroses occurring in female patients between the ages of 31 and 65 during the years 1937 to 1943 were reviewed. Of these, 75 patients had received estrogenic hormones as therapy for mental disorder in varying amounts, usually large, over varying periods, without benefit. On the contrary, they frequently got worse. These patients were subsequently hospitalized in the psychiatric department, for rational psychiatric treatment. Of these 75 cases, 41 were classified as involutional melancholia; 12 as manic-depression, depressed type; 20 as psychoneuroses, with anxiety and depressed features; and two as schizophrenia. Under psychiatric treatment, 90 per cent of the affective cases showed social or full recovery in four to six weeks.

The writer's conclusions were that estrogenic hormones have no place in the treatment of psychiatric disorders except for symptomatic relief of vasomotor symptoms. Convulsive "shock" therapy is a near specific for the relief of all types of affective disorders, especially involutional melancholia. The writer feels, further, that estrogens should be condemned, because they may be harmful and often make the psychiatric disorder more severe.

Presenile Depressions. The writer has treated 25 patients past 70 years of age, the oldest 83. At least one-third of these patients had complicating organic diseases such as arteriosclerosis with hypertension, coronary artery disease, diabetes, polycythemia and varicose ulcers. All made excellent social or full remissions, although 20 per cent of them have had one or more relapses or recurrences. One patient died of a heart complication while under treat-

ment. Two others have died since treatment while in a socially recovered stage. The 83-year-old patient, in a chronic manic state, made a full remission. Of these patients, a number came in with diagnoses of organic psychoses of the senile type; only one failed to obtain a sustained good result. Adjunctive therapy in the form of testosterone for male patients was found to be valueless either in improving the mental condition or preventing recurrences.

There is some controversy about which type of depression responds best to treatment; whether the cycle can be influenced in true recurrent manic-depressive patients; what the exact technic is; what is the best type of treatment and the preferred number of treatments; and whether adjunct therapy is of value. However, the fundamental fact remains that a new uniformly successful treatment, introduced into psychiatry, effectively terminates depressive psychoses, whereas all previous methods have failed to produce such spectacular results.

The writer has attempted to study the effect of convulsive therapy in the recurrent and relapsing types of affective states. In this study, 103 cases, either recurrent types of manic-depressive psychoses or cases that relapsed within 90 days following "shock" therapy, were compared with a control group of 175 single admission cases that remained entirely well for from two to five years.

The recurrent types had an average of two previous admissions for psychiatric treatment prior to the era of "shock therapy." The average duration of illness including hospitalization was six months. The average duration of the depressive episodes when later treated by "shock" therapy was two months. It was found that "shock" therapy prevented recurrence two and one-half times more frequently in the female than in the male. Of these cases, 32 were typical cyclic manic-depressive patients, 23 of whom have remained well two or more years after therapy; nine relapsed, requiring one or more hospital treatments; but all eventually made good social "recoveries" with additional therapy.

Comparison of the number of days of hospitalization including "shock" therapy in the two groups showed that patients who gained sustained remissions were held in the hospital on an average of 10 more days than the group which relapsed. This suggests that premature dismissal of cases was a factor in relapses and that

best results were obtained if the patient was held six weeks. As to the number of "shock treatments," cases without relapse averaged 7.2 treatments, while relapsed cases averaged 5.5 treatments. It would appear that the average depression should receive about eight convulsive treatments. Sustained "recoveries" were better in the older age group, past 60 years of age. This included 25 patients over 70 years. The lowest rate of full remission and the greatest tendency to recurrence were in the 21 to 30 age group.

Similar studies need to be carried out over a 10-year period on a large number of cases to answer such important questions as whether it is possible to break up cyclothymic personality, which type of case responds best, and what is the value of other adjunctive therapy such as psychotherapy, drugs, hormones, nutritional measures, etc.

The Psychoneuroses

At the 1944 American Medical Association meeting, Kalinowsky, Barrera and Horwitz,[17] reported before the section on neurology and psychiatry, observations on 60 cases of various types of psychoneuroses treated by electric convulsive shock. They were unable to give clear-cut, well-defined indications for this therapy in the psychoneuroses, but on the whole they concluded that obsessive compulsive states, anxiety states and conversion hysterias did not respond well, while so-called psychoneurotic depressions did very well.

The present writer's own observation on this group of patients has been as follows: Obsessive compulsive neuroses do not respond well to convulsive "shock" therapy because, in the writer's belief, obsessions are often expressions of a schizophrenic-like psychosis. However, convulsive "shock" is of distinct value in depressive states with obsessional trends. In other words, success depends upon the degree of affective responsiveness of the patient.

Anxiety States. Many so-called anxiety states are true affective disorders—depressions, frequently beginning with anxiety symptoms, then merging into clear-cut depressions and progressing through a state of anxiety to full recovery. One classifies many of these as anxiety depressions, with the treatment depending upon which symptom predominates at the time of therapy. If anxiety

features predominate, psychotherapy is the better treatment. If the picture is predominantly depressive, convulsive "shock" therapy will break up the depression, leaving anxiety that can then be handled with further psychotherapy. Many borderline states respond to convulsive therapy, but again the decision must be made upon the type of affective reaction.

Conversion Hysteria. Conversion hysteria, unless there is a distinct affective component, is not likely to respond well to convulsive therapy. However, those conversion symptoms that are part of a depressive state, as in chronic invalid reactions, or as Myerson would call them, anhedonic states, and astasia abasia reactions which are secondary to depressive affective reactions, respond dramatically to convulsive "shock" therapy. Again, the question is to determine the affect present and not to label the neurosis.

In psychoneurotic depression, the writer thinks we all agree that convulsive "shock" therapy is of great value. However, the important point is: Can we separate the psychoses from the neuroses? Many neurotic symptoms are the first expression of a psychosis; obsessive states often wind up in schizophrenia and anxiety states in a depression. The improvement seen is determined by the degree of affective reaction in the patient; whether the reaction is schizophrenic or psychoneurotic. The greater the evidence for an affective disorder, the better the prognosis for convulsive therapy.

Considerable research has been done upon the use of partial barbiturate narcosis[18] to estimate the prognosis of treatment, especially in schizophrenia. The writer has found this method in doubtful cases to be helpful. The use of a quick-acting barbiturate such as sodium pentothal brings forth any latent affective reaction in the patient's emotional response and often reveals conflictual material that indicates that the patient will respond to convulsive therapy and later to adequate psychotherapy.

Hazards and Complications

Hazards of the Therapy. The convulsive "shock" treatment is not without risks. A number of unexplained deaths have occurred. Although large numbers of patients with organic cardiovascular hypertensive disease have been successfully treated, apparently

with little increased danger[16] some have died from coronary disease shortly after treatment. More studies need to be carried out, with followup observations of the cardiovascular functions after convulsive therapy. A number of the writer's patients have died suddenly from cardiovascular accidents within a few weeks after full remission from depressive psychoses; and the writer is not fully convinced that the therapy may not have hastened these deaths. It is true that many organic diseases complicating depressive psychoses are not affected by the therapy; diabetes, pernicious anemia, spastic paralysis, pregnancy, hyperthyroidism, carcinoma, coronary disease, hypertension, cerebral thrombosis have all been associated with severe depressions or manic states, yet full remissions have occurred without organic complications. The only definite physical contraindications have been active pulmonary or systemic infections and cardiac decompensation.

Traumatic Complications. Traumatic complications of drug convulsive "shock" were so great that many abandoned the treatment. With the advent of electric shock many workers have maintained that both the percentage and severity of traumatic incidents were markedly reduced. The problem of traumatic complications following electric shock has been dismissed too lightly by all investigators. Statements such as that "complications are infrequent or eliminated or reduced to a minimum by proper restraints" dodge the issue. These statements give the uninitiated false security with the method. The facts are that straight electric shock produces severe convulsive seizures, sufficient to fracture extremities and vertebrae, and to cause ligamentous and muscular ruptures with dislocations. Indeed, humeral and scapular fractures may occur more frequently from electric shock than from metrazol. Many such fractures have been reported.[19, 20, 21, 22, 23]

Aside from skeletal complications, far too little attention has been paid to visceral complications. In 1930, veterinarians in packing houses attempted to stun cattle in slaughter houses with electricity applied to the head. It was found[24] that the ensuing convulsions produced in lungs and other viscera petechial hemorrhages indistinguishable from hemorrhagic septicemic states. These soft tissue injuries from straight convulsive shock undoubtedly result in human beings in unrecognized lesions within muscles,

brain, lungs, etc., and probably account for the occasional flareups of latent tuberculosis,[25] thus making the therapy unsafe.

Preliminary Curarization

The fundamental problem is still the degree of muscular violence of the seizures; hence some safe, softening method is necessary. The best and safest method so far devised to prevent all traumatic complications is preliminary curarization.[26, 27] The dose of standardized curare (Intocostrin) is estimated from the normal body weight of the patient, 1 mg. per two pounds of body weight. The total intravenous injection time is 60 seconds. If too fast an injection is given, a shock-like reaction may be produced with a fall in blood pressure and obstructive respiration from relaxed pharyngeal muscles. Two minutes are allowed after completion of the injection for the peak of generalized muscular asthenia. At this point, the patient is usually unable to lift his head; the electrical current is applied, and a convulsion is induced.

Immediately following the convulsion, respiration starts; in some cases the jaw and tongue may be relaxed, and stridor or obstructive dyspnea appear. In these cases, the angles of the jaws are held forward by the nurse for a few minutes until the effects of curarization wear off, as with ether anaesthesia. Very exceptionally, to hasten recovery from curarization, an ampule of 1-2000 prostigmin may be given intravenously. Contrary to statements appearing in current literature, apnea is not produced or prolonged by curare. There is no effect upon the central respiratory mechanism; only shallow intercostal breathing and pharyngeal muscular relaxation can occur. The erroneous opinion still exists that curare increases the hazard of treatment. This is not true, as shown by the fact that over 100,000 curare-metrazol or electric treatments have been given, with but one reported fatality; and in that case neither proper artificial respiration nor prostigmin was used. The only contraindication to the use of curare is myasthenia gravis.[28]

Investigation of Physiologic Changes

The physiologic changes produced by the "shock" therapies in cerebral metabolism are under intensive investigation. Altera-

tions in the brain waves, conditioned reflexes and neurologic picture occur, with chemical changes in the blood. While some temporary damage occurs to intellectual functions, most of the change seems to be reversible. As yet, there is no conclusive evidence of permanent brain damage. But the total number of "shocks" that may be safely given is not clear. In the question of whether electric convulsions might initiate epilepsy, EEG studies made before and after treatment indicate that seizures are not likely to develop unless the individual is constitutionally predisposed, i. e., already dysrhythmic.

Meduna[29] has recently pointed out the physiologic factors common to all forms of "shock" therapy. These observations point the way toward discovery of a more specific type of therapy in the future. According to his observations, all "shock" therapies interfere with the oxidative processes of carbohydrate metabolism. Insulin causes the same biochemical changes in the blood as does convulsive shock, an acid shift in P_H, leukocytosis and other changes are seen in narcosis treatment. These reactions are similar to diabetes and to stimulation of the sympathetico-adrenal system. Schizophrenic patients behave like diabetics in their glucose and insulin tolerance. He suggests that any means aimed to cure the schizophrenic state must interfere with some phase of the enzyme system of carbohydrate metabolism.

Future Problems for Investigation

The recurrent or relapsing affective disorder needs more study as to the causes of relapse, e. g., the effect of supplementary psychotherapy. Determining the ultimate effect of "shock" therapy in changing the manic-depressive constitution requires a controlled study over many years.

What change in cerebral physiology coinciding with a convulsive seizure effectively changes emotional habit patterns? More accurate information concerning the neurophysiologic mechanism of a convulsion as well as the biochemical studies outlined by Meduna, might lead to a simpler, more scientific therapy. What is the relationship to the organic confusional state produced by the seizure that relieves the pathologic emotional state? What degree of confusion gives the best therapeutic results? We need more accurate

intellectual tests to determine this question, and such tests might lead us to a more accurate prescription of effective treatment. Some patients might need only a few treatments and others require a much larger number, to be determined by an estimate of the proper degree of therapeutic confusion.

After evaluating all the present evidence for and against the "shock" therapies one is justified in recommending their use in suitable cases. We must await future research to assign their final place in psychiatric therapy.

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IS DEMENTIA PRAECOX HEREDITARY?

BY CAPT. HYMAN S. BARAHAL, M. C.*

The clarification of the possibly hereditary origin of dementia præcox is one of the most important aims of contemporary psychiatry. Indifference toward this essential problem on the part of many psychiatrists has resulted in a deplorable fence-straddling indecision regarding questions of marriage and reproduction and various other sociopsychiatric propositions arising in schizophrenic families. Due to lack of adequate information by the qualified specialist, the general public has been unable to adopt a realistic attitude to these questions. Superstition, fear and intolerance are not conducive to psychiatric attempts to solve the problems of mental disease in a more constructive manner.

During the past few years, there has been considerable progress in the study of the hereditary nature of dementia præcox. The most important contributions include the family studies of Kallmann,[1] the report of the committee of the American Neurological Association headed by Myerson,[2] the work of Pollock, Malzberg and Fuller,[3] and the twin investigations conducted by Rosanoff and his coworkers[4] as well as by Kallmann and Barrera.[5] Although these reports differ somewhat in their scopes, methods and findings, they are in satisfactory agreement concerning one basic fact. All of them present some evidence for the possibly hereditary causation of dementia præcox, although only Rosanoff and Kallmann and Barrera are rather definite in their genetic conclusions.

Of course, the proof of the genetic theory of dementia præcox is a much more intricate task than it appears on the surface. In order to prove or disprove the tenet that the disease is based on a hereditary factor, the investigation necessarily resolves itself into the following major steps. (1) There should be satisfactory agreement as to what is thought to be a diagnostic entity or a uniform clinical syndrome of dementia præcox. (2) It is necessary to determine the "normal" distribution curve of dementia præcox in the general population in order to be able to compare the mor-

*The material of this paper was prepared before Captain Barahal entered the military service and while he was serving on the staff of Kings Park State Hospital, from which he is now on military leave of absence.

bidity rates of normal and tainted families. (3) It is necessary to determine the incidence of dementia præcox in the various groups of blood relatives of persons who are known to be true cases of dementia præcox (index cases or probands). 4. A statistical comparison is to be made between the morbidity rates of the general population and the consanguinity of schizophrenic index cases. If there is a statistically significant difference between the two groups, the possibility must be ruled out that this difference in morbidity might be due to a corresponding difference in environmental circumstances.

The difficulties encountered in an attempt to delineate a clinically well-defined syndrome of dementia præcox are generally known. One may recall only to what extent the proportion of dementia præcox cases varies in the statistics of mental institutions because of discrepancies in diagnostic criteria. There has even been the tendency to divide schizophrenic cases into different groups and categories, and these subdivisions have been assumed by some writers, although not always admitted, to represent biologically distinct reaction types. Thus, Kallmann[5] divided his schizophrenic index cases into a "nuclear" group consisting of catatonic and hebephrenic varieties and a "peripheral" group comprising the paranoid and simple types without marked deterioration. This distinction was made in spite of the fact that some patients display simultaneously the characteristics of more than one group, or change from one type to another when observed over a period of many years.

Other investigators have maintained that many additional mental anomalies may in some way be related to the schizophrenic symptom complex. These "polymorphicists," as represented particularly by Barrett[6] and Rosanoff[7] have been of the opinion that alcoholics, epileptics, psychopaths, cranks, reformers, faddists, cultists and numerous other borderline types differ from the outright bizarre schizophrenic only in degree. An obvious objection to this unrestricted classification is, of course, that such a procedure would leave very few people who could not be called abnormal or schizophrenic.

From a psychoanalytic viewpoint, any diagnostic groupings of mental states are meaningless, because the underlying conflicts of

manic-depressives, psychoneurotics, schizophrenics, etc, may be identical, and the differences in the overt and conscious reactions are considered relatively unimportant. Even the terms "normal" and "abnormal" have lost their meaning in a psychoanalytic description of mental disorders, since apparently well-adjusted persons without noticeable character and personality anomalies may have those basic conflicts, unconscious fears and compensating drives and urges which are commonly found in the really abnormal cases. Here, again, one encounters the assumption that the distinction between "normal" and "abnormal" is merely a difference in degree.

It may be true that many psychoanalytically inclined psychiatrists continue tacitly to believe in an organic basis for the profound differences in the "compensatory" responses of the normal and the psychotic. However, it cannot be denied that there still are many disagreements concerning the nature and symptomatology of a schizophrenic psychosis. So long as these discrepancies in diagnostic concepts and criteria exist, even the most elaborate statistical figures pertaining to the etiology of dementia præcox will be of only limited practical value.

If it is assumed that the various forms of schizophrenia are manifestations of the same disease entity, the next step in an investigation of its possibly hereditary origin would aim at the obtaining of reliable control data on the incidence of dementia præcox in the general population. Evidently, any morbidity rates for "tainted" families would lack significance unless they could be compared with the rates for a representative section of the normal average population. Among the technical procedures used for this purpose, the simplest method consists of studying the incidence of dementia præcox in the siblings of the spouses of hospital patients affected by morbid conditions which do not imply any social or biological selection. Luxenburger[8] and Kattentidt[9] examined the brothers and sisters of the spouses of senile patients, Schulz[10] those of arteriosclerotic patients, and Brugger[11] those of a mixed group of patients suffering from organic psychoses.

The normal average rates obtained by these investigators ranged from .32 to 1.53 per cent (Table 1). More precisely, Kattentidt's figure, which was not statistically corrected like the others,

amounted to .32-.46 per cent, that of Schulz to .68 per cent, that of Luxenburger to 1.01 per cent, and that of Brugger to 1.53 per cent. The discrepancies in these rates appear to be an adequate indication of the technical difficulties arising in the application of the method. They may even indicate that the procedure used in this method does not fully serve its claimed purpose of eliminating the factor of selective mating.

TABLE 1. MENTAL DISEASE DISTRIBUTION IN GENERAL POPULATION

Investigator	Incidence in percentages of general population	
	All mental disease	Dementia præcox
Brugger	1.31	.38—1.53
Kattentidt	2.4	.32— .46
Klemperer	—	1.4
Luxenburger	2.24*—4.39	.52*—1.01
Luxenburger-Kallmann	—	0.85
Pollock and Malzberg	3.7	1.3
Schulz	2.91—6.62	.68— .76

*Uncorrected.

Another method for the collection of general population rates for a given trait consists in the organization of a survey of all the living inhabitants of a representative community, a very tedious enterprise requiring a house to house census of an entire population group. Brugger,[11, 12] conducted such a survey in Thuringia and obtained a normal average schizophrenia rate of .38 per cent. In another study[13] he included every eighth household of a Bavarian population (Allgäu) and found a general schizophrenia rate of .98 per cent. A similar survey was made by Klemperer,[14] who, in 1931, examined a random sample of 1,000 persons born in Munich between 1881 and 1890 and thereby arrived at a schizophrenia rate of 1.43 per cent.

Evidently there are various sources of possible inaccuracies in the application of the census method. Mental disease is still considered by many persons to be a stigmatizing disgrace for the family and, therefore, will not easily be divulged to an unofficial census taker requesting such intimate information. In addition, there are numerous psychotic conditions which remain unrecognized by

other family members for a long time, especially when they are not severe enough to require hospitalization. It is obvious, therefore, that no general census of mental anomalies can be expected to be reliable, unless all inquiries are made by an investigator who is psychiatrically well trained and able to subject every individual of a given survey to a thorough personal examination.

Pollock and his associates[15] used a statistical procedure by which they obtained what is usually referred to as a normal average expectancy rate for mental disease, that is, a figure expressing an individual's chance of being admitted to a mental hospital in the course of his lifetime. Their original expectancy rates, determined on the basis of the 1920 census, amounted to 4.7 per cent for males and to 4.4 per cent for females, but they were subsequently corrected to 3.7 per cent for the expectancy of all mental disorders and to 1.3 per cent for the general expectancy of dementia præcox. It is clear, however, that these figures express "mental disease hospitalization expectancy" rather than "mental disease expectancy;" and it has already been mentioned that many psychotic persons are living in our communities, who are never admitted to any mental institution. In fact, hospitalization is frequently the result of social difficulties and should not be taken by itself as a criterion for the severity of psychiatric manifestations. The logical consequence is that statistical figures for mental disease hospitalization expectancy may be valuable for mental hospital planning, but they do not seem sufficiently reliable for the intricate statistical purposes of genetic investigations.

It is justifiable to conclude, therefore, that with the available methods it is practically impossible at present to obtain more than approximate estimates of the incidence of dementia præcox in the general population. An accurate and truly scientific approach would require both a uniform diagnostic concept of the disease and a thorough examination of large unselected population groups by qualified psychiatrists. Considering the enormous difficulties of the task, as well as the understandable reluctance of a probably large proportion of any chosen group to cooperate with such a psychiatric examination, one must be satisfied with the general statement that the normal average incidence of dementia præcox seems to be somewhere between .5 and 1.5 per cent.

However, even if a comparison with "tainted" families is based on a maximum morbidity rate of approximately 1.5 per cent for the general population, it is shown in Table 2 that the schizophrenia rates for blood relatives of schizophrenic index cases are increased considerably and quite consistently. The only partial exception may be seen in the morbidity rates for nephews and nieces, which range from 1.4 per cent (Schulz[16]) to 3.9 per cent (Kallmann[1]). The children of schizophrenic index cases were studied by five dif-

TABLE 2. SCHIZOPHRENIA RATES FOR BLOOD RELATIVES OF SCHIZOPHRENIC INDEX CASES

Investigator	Children of One schizophrenic parent	Children of Two schizophrenic parents	Grandchildren	Half-siblings	Siblings	Dizygotic twins	Monozygotic twins	Nephews and nieces	Cousins
Brugger	..	..	..	..	10.7	..	..	3.5	..
Gengnagel	8.33	..	..	..	..	..	..	..	..
Hoffman	8.6	..	..	..	..	..	..	..	..
Kallmann	16.4	68.1	4.3	7.6	11.5	..	..	3.9	..
Kallman and Barrera	..	..	..	..	..	12.5	81.7	..	..
Konstantinu	..	..	..	..	4.54	..	..	1.6	..
Luxenburger	..	..	..	..	7.5	..	..	1.7	..
Oppler	9.7	..	..	..	..	..	..	..	..
Rosanoff	..	..	..	..	..	14.9	68.3	..	..
Rüdin	..	..	..	..	4.83	..	..	..	..
Schulz	..	53.0	..	..	8.2	..	..	1.4	..
Walker	..	..	..	..	4.7	..	..	2.25	..
Weinberg	..	..	..	..	..	..	..	..	2.6

ferent investigators (Gengnagel,[17] Hoffman,[18] Kallmann,[1] Oppler,[19] and Schulz[20]) and yielded variations from 8.3 to 16.4 per cent for children of one schizophrenic parent, and variations from 53.0 to 68.1 for children of two schizophrenic parents. Grandchildren (4.3 per cent) and half-siblings (7.6 per cent) were investigated only by Kallmann,[1] and cousins (2.6 per cent) only by Weinberg.[12] Full siblings were studied by seven investigators (Brugger,[12] Kallmann,[1] Konstantinu,[22] Luxenburger,[23] Rüdin,[24] Schulz,[16] and Walker[25]) and showed schizophrenia rates ranging from 4.5 to 11.5 per cent.

The sibling figures of Humm[26] (3.1 per cent) and of Pollock, Malzberg and Fuller[3] are not included in the tabulation, since they are not directly comparable with the corrected morbidity rates of the other investigators. Pollock and his associates found seven cases of dementia præcox in 716 siblings of 175 schizophrenic hospital patients and concluded that "dementia præcox occurs relatively more often among the siblings of patients with dementia præcox than among the general population."

The most thorough and extensive family study was that of Kallmann,[1] who investigated six different groups of blood relatives of 1,087 schizophrenic index cases admitted to the Berlin-Herzberge Hospital during the first decade of its existence (1893-1902). His findings revealed rather conclusively that the incidence of dementia præcox in the consanguinity of persons affected by true cases of dementia præcox considerably exceeds the incidence of the disease in the general population. This genetic theory of dementia præcox was fully substantiated by the more recent twin studies of Kallmann and Barrera[5] and of Rosanoff and his coworkers.[4] Both surveys showed "a marked contrast between monozygotic and dizygotic twins" and indicated clearly that susceptibility to dementia præcox in the blood relationship of schizophrenics increases in direct proportion to the degree of consanguinity. According to Kallmann and Barrera, it is impossible to explain these results on the basis of a "correspondence between similarity in environment and closeness of blood relationship."

Regarding some of the other family studies, one should remember, in contradistinction to Rosenberg's[27] recent statements, that their morbidity rates not only referred to different population and consanguinity groups, but also were based on surveys which differed widely in time, size, thoroughness and methodological procedure. It seems safe to suggest that much of the criticism, which was previously offered in regard to normal average morbidity rates, is applicable to a majority of these studies to about the same extent. There are definite objections to any attempt to determine the taint conditions in schizophrenic families on the basis of hospital records or of "routine" information obtained from a one-sided selection of relatives of hospitalized patients. It has been the present writer's experience that reliable family histories fur-

nished by patients or their closest relatives are extremely rare, either because of lack of psychological understanding and actual knowledge concerning distant relatives or because of the reluctance of many persons to disclose information about peculiarities of their own families to "strangers." A great number of unquestionably schizophrenic cases are described by other members of the family as merely nervous, seclusive, lazy, hard to get along with, or showing poor common sense. It happens rather frequently that the same relative of a hospital patient is classified by his mother as perfectly normal, and by his uncle as very queer and eccentric.

The case records of all mental institutions in the State of New York are required to have a statement regarding the given family history. It is no exaggeration to state, however, that this part is usually the most incomplete and neglected of the entire record. The most common method of obtaining information about the family history consists in asking some visiting family members whether or not there have been "any other cases of mental illness in the family." The meaningless result of this kind of questioning is that most of the family histories are described as "negative for nervous or mental disease." Such misleading statements often remain uncorrected forever, even if other members of the family are subsequently reported to have been admittd to some mental institution.

One of these "negative" case records impressed the author particularly. During the process of tracing the family tree of one of a State hospital's schizophrenic patients it was discovered that in the same building there were under care two subsequently admitted schizophrenic relatives, whose relationship to the first patient had not been brought to the staff's attention because of differences in names due to marriage.

To demonstrate the incompleteness of many family histories as obtained by routine methods, it may be of some interest to report certain practical observations made by the author in consecutive periods of five and six years respectively, spent with two groups of male and female hospital patients. Throughout these years he managed to keep a fairly complete record about relatives who came to see him during their visits to the patients under his care. Of course, not all of these patients had visits from family members

during this period, nor was the writer consulted by all of these visitors. Nevertheless, the data collected seem to be rather interesting.

Of the total number of 876 patients under the writer's care, 248 males and 415 females were diagnosed as schizophrenic, giving a total of 663 cases of dementia præcox (Table 3). This unselected group of dementia præcox patients included 3.6 per cent of simple cases, 49 per cent of paranoid cases, 33.9 per cent of hebephrenic cases, and 13.5 per cent of catatonic cases.

The family histories of these 663 patients are analyzed in Table 3, first as recorded and then as corrected by personal contact with the relatives of these patients. Corrections were made only for the more closely related members of the family, namely, for parents, siblings, uncles and aunts, and exclusively on the basis of really psychotic manifestations or pronounced peculiarities of a schizophrenia-like nature. Personal contact with the family increased the number of cases with "positive" family history from 207 to 293, or from 31 to 44 per cent. There is little doubt that the increase would have been much greater, if there had been an opportunity to come in contact with more families or with more members of the families contacted. In any case, the observations were in line with the contention that routine information regarding mental disease in the families of hospital patients, as it usually is available in mental institutions, is very often incomplete. In fact, no family data should be used for genetic studies, which have not been obtained by psychiatric examination of all the living members of index families.

In many instances, it will be a definite advantage to record in a case history a complete family tree of a psychotic patient with an interesting family history. The information for such a family tree can, as a rule, not be obtained in less than two hours, but the time spent will often be helpful in gaining the confidence of a patient's family and it certainly cannot fail to provide additional insight into important background factors of a patient's history. Nothing should be taken for granted in the recording of any genealogical data, and it is especially advisable to ask direct questions about every family member, including physical development, social adjustment, marital status and interpersonal relationships. No one

TABLE 3. ANALYSIS OF FAMILY HISTORIES OF DEMENTIA PRÆCOX PATIENTS

Type of dementia præcox	Number of cases		Sex of cases		Number of family histories						Family histories in percentages before and after personal contact					
					As recorded			As-corrected by personal contact			Negative		Unknown		Positive	
	Total	Per cent	Male	Female	Negative	Unknown	Positive	Negative	Unknown	Positive	Before	After	Before	After	Before	After
Simple	24	3.6	7	17	12	2	10	8	2	14	50.0	33.0	8.0	8.0	42.0	58.0
Paranoid	325	49.0	84	241	204	23	98	174	22	129	63.0	54.0	7.0	7.0	30.0	39.0
Hebephrenic	225	33.9	107	118	145	14	66	110	14	101	64.0	49.0	6.0	6.0	29.0	45.0
Catatonic	89	13.5	50	39	53	3	33	37	3	49	60.0	42.0	3.0	3.0	37.0	55.0
All dementia præcox cases	663	100.0	248	415	414	42	207	329	41	293	62.0	49.0	7.0	7.0	31.0	44.0

should be classified as normal without the availability of satisfactory information about his entire life history, and it will often be preferable to mark a person as "X," or "Unknown," rather than as "free of mental or nervous disease."

In recording a great number of family trees of dementia præcox patients, it was found very often that more than one member of the same family were admitted to mental institutions. For instance, the present resident population of Kings Park State Hospital includes several sets of three brothers with similar forms of schizophrenic psychoses. It has also been observed by the writer that secondary cases of dementia præcox occur rather frequently in the families of both parents of a schizophrenic index case, particularly in the collateral lines. This distribution is an indication of the recessive type of inheritance as suggested by Kallmann[1] in regard to the transmission of the hereditary predisposition to dementia præiox.

It has been stressed by various authors, and recently especially by Kallmann,[1] that pedigrees of individual families with a possibly accidental accumulation of affected persons should not be made the basis of genetic investigations of relatively common traits such as dementia præcox. More elaborate methods are necessary, of course, to determine the hereditary nature of such a condition beyond the possibility of any statistical sources of error. For clinical purposes it is unquestionable, however, that the frequent accumulation of similar psychoses in certain families requires the full attention of every psychiatrist. It cannot be denied that a typical textbook picture of a disease is found to be valuable in studying the clinical symptomatology of the condition although it may not always occur in such a plain form. Analogously, a heavily tainted family tree cannot fail to be of certain value in an analysis of the genetic aspects of a psychosis even if the majority of schizophrenic cases should not be expected to display such a conspicuous taint distribution.

The pedigree of one of the writer's schizophrenic families with a fairly pronounced accumulation of dementia præcox cases on either parental side is shown in Figure 1. No. 39 was the index case, although No. 12 and No. 18 were also patients in the same hospital. Several other members of the family, originally classi-

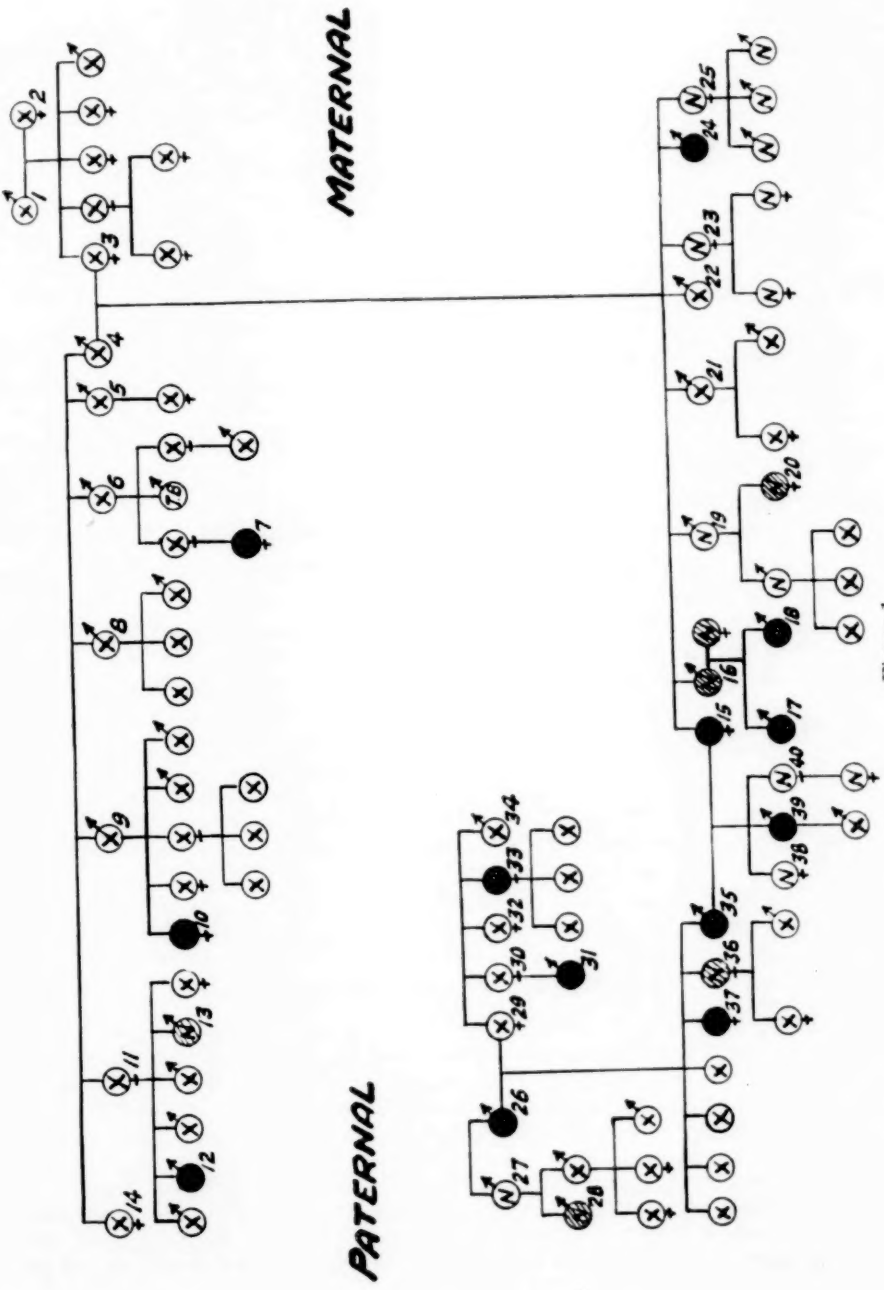

Figure 1

Figure 1

Maternal:

1. Great-grandfather. Mental condition unknown.
2. Great-grandmother. She had four daughters and one son. Their nervous and mental conditions are unknown.
3. Grandmother. Nervous and mental condition unknown.
4. Grandfather. Mental condition unknown.
5. Grandfather's brother. A physician, married, had one daughter. Mental conditions unknown.
6. Grandfather's brother. A druggist, married, had two daughters and one son. Their mental conditions unknown. The son died of tuberculosis.
7. One daughter married and had a daughter who committed suicide.
8. Grandfather's brother. An engineer, married, had three children. Their mental conditions are unknown.
9. Grandfather's brother. Married, had three daughters and two sons. Their mental conditions are unknown except that
10. one daughter had a "nervous breakdown" for one year.
11. Grandfather's sister. She married a physician, had five sons and one daughter. Two sons are lawyers, a daughter is unmarried and a devout church worker. Their mental conditions are unknown except that
12. one son is a patient in Kings Park State Hospital. He was admitted, January 9, 1909, at the age of 26, single, diagnosed dementia præcox, hebephrenic. His psychosis began in 1903 and was gradual in onset. This patient was always talkative, sociable, studious and used tobacco excessively. He gradually became threatening, fought with his brother, would sit for hours at a time in one place, and seldom speak to anyone. He complained of indigestion because of the use of cement in building a wall. At the present time, he shows considerable dilapidation, makes little attempt to answer questions, wets and soils and sits around in one position throughout the day.
13. One son is "nervous" and depressed.
14. Grandfather's sister. Mental condition unknown.
15. Mother of patient. Psychotic, "improved" by psychoanalysis; adjusting fairly well now.
16. Mother's brother. Married, said to be "nervous," had two sons.
17. One son "nervous" in adolescence and
18. one son a patient in Kings Park State Hospital. He was admitted there on November 8, 1929, at the age of 24, single, diagnosed dementia præcox, paranoid. His birth was said to have been normal; very early in life, he showed determined temper, vigorous outbursts and tantrums. He left school in the third year of high school to fill a position on a steamship line. At 23, he became an insurance underwriter on his own initiative and worked at this until his present illness. He became quiet, began to use peculiar expressions, slept poorly and became more and more seclusive. He resigned from his position without giving any notice, developed increasing antagonisms toward his mother and father.

He was taken to Bloomingdale Hospital and transferred to Kings Park State Hospital. At the present time, he shows no essential change, is dull and indifferent to his surroundings. No information can be obtained from him.

19. Mother's brother. Married, had one son and one daughter. Mental condition unknown.
20. The daughter is rather masculine and neurotic.
21. Mother's brother. Married, had one son and one daughter. Their mental conditions are unknown.
22. Mother's brother. Mental condition unknown. Dead.
23. Mother's sister. Married a physician, had two daughters. Their mental conditions are unknown.
24. Mother's brother. Married, no children. He and his wife both heavily alcoholic.
25. Mother's sister. Married a banker, had three sons. Their mental conditions are unknown.

Paternal:

26. Grandfather. Civil war veteran, alcoholic, violent temper and, from description, apparently psychotic.
27. Grandfather's brother. Engineer, inventor, married, had two sons. He died at 60 or 65 years of age. Mental conditions are unknown except
28. one son is considered odd. He went to brother's graduation at Yale in his bare feet.
29. Grandmother. She had seven children in 10 years. Their mental conditions are unknown.
30. Grandmother's sister. Married, had one son. Her mental condition unknown.
31. The son, mentally retarded, had fits of temper and died at 16 years of age.
32. Grandmother's sister. Mental condition unknown.
33. Grandmother's sister. Married a banker, had three children, separated from husband. She was in a mental institution for 10 years.
34. Grandmother's brother. Mental condition unknown.
35. Father of patient. A patient in Kings Park State Hospital for nine months, he died at the age of 60. He was diagnosed manic-depressive, manic. This patient's father whipped him and objected to his attending school. He finished school at the age of 12, reaching the seventh grade. He studied to be an electrical contractor. He served as captain in the army from May 11, 1918, to November 19, 1919. He was aggressive, energetic, congenial, sociable, well-liked, intelligent and capable. Five years before admission, he became irritable and argumentative. He spent money lavishly, overdrew his account, had an attitude of grandeur, lost his job and became depressed. In April, 1934, he was arrested for passing a bad check and jailed for nine days. He was admitted to Kings Park State Hospital on June 1, 1934. He died on March 18, 1936, of carcinoma.
36. Father's sister. Married, considered neurotic, had one son and one daughter. Their mental conditions are unknown.
37. Father's sister. Married and divorced. Married second time but unhappy. Psychotic and hospitalized several times.
38. Patient's sister. Married, business woman. Mental condition unknown.

fied as normal and listed as such in the family tree, were subsequently found to be extremely erratic and eccentric despite apparently fair social adjustment.

Another family (Figure 2) revealed an even greater accumulation of psychotic cases. The proband's father (No. 5) was hospitalized under the diagnosis of "constitutional inferiority;" but according to his case record one would not hesitate to classify him as a clear case of dementia præcox. The mother (No. 13) was never hospitalized, although she impressed the writer on many occasions as being definitely in need of it. No. 14 died by accident at the age of 16, perhaps before he had time enough to develop schizophrenic manifestations. Nos. 15 ,16, 17 and 18 were all hebephrenic and, at one time or another, under the author's care. Another brother (No. 19) had been described as rather simple, but free of any psychotic symptoms. However, when he visited the hospital upon request, he expressed various delusional ideas and was found to have had hallucinations in the past.

The pedigree of this family shows that practically every member available for personal psychiatric examination was classifiable as schizophrenic. Unfortunately, most of the remaining relatives had to be listed as "unknown," because no satisfactory information could be obtained about them. Nevertheless, it would seem rather difficult for any psychiatrist studying this family tree to remain indifferent to the possible effects of heredity.

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39. Patient in Kings Park State Hospital to which he was admitted on May 28, 1940, age 35, married. He was diagnosed dementia præcox, hebephrenic. His birth was said to have been normal. He entered school at six years of age, completed high school at 18. He was always studious, editor of the school paper, more or less imaginative, inclined to daydream and very much interested in motors and airplanes. He worked with his father installing electrical equipment. Early in 1925, he became depressed and complained of "wild" thoughts. He began to avoid people, thought they were watching and talking about him. He was admitted to Bloomingdale Hospital on April 11, 1925. He left the hospital on January 30, 1926, to go to Florida as an electrical engineer. He came home October 11, 1926, and was depressed and excited. He said he had "dreadful" thoughts which he could not control and said people were talking about him. He was taken to Kings County Hospital and then admitted to Kings Park State Hospital. At the present time he is actively hallucinated, impulsive and entirely preoccupied.

40. Patient's sister. Married, author, has one daughter. Their mental conditions are unknown except that sister is very aggressive and "neurotic."

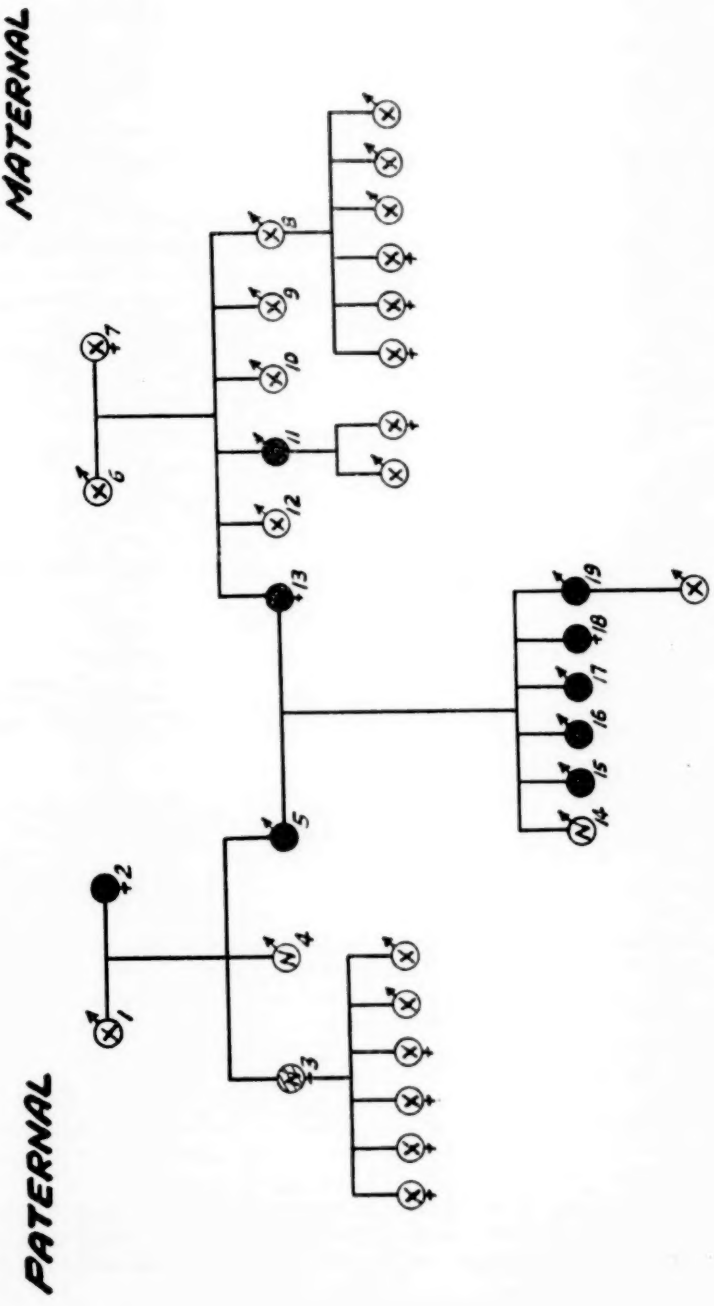

Figure 2

Figure 2

Paternal:

1. Grandfather. Mental condition is unknown.
2. Grandmother. Psychotic, died at 90 years.
3. Father's sister. Married, had two sons and four daughters, said to have a temper, 72 years of age at present.
4. Father's brother. Priest, died at 25. Mental condition unknown.
5. Father of patient. He was committed to Central Islip State Hospital on April 24, 1912, and then transferred to Brooklyn State Hospital on December 23, 1919. He had been upset for many years, but for two years prior to admission he would not work. He saw and heard imaginary things, grew shameless and brutal in his sex relations, and was "dull and stupid." He was diagnosed constitutional psychopathic inferiority with episodes of excitement. His subsequent behavior was compatible with a diagnosis of dementia præcox. He died in 1924 of lobar pneumonia.

Maternal:

6. Grandfather. Died at 90 years. Mental condition unknown.
7. Grandmother. Died of old age. Mental condition unknown.
8. Mother's brother. Married, importer, had three sons and three daughters, died at 80. Mental condition unknown.
9. Mother's brother. Died at 73 years. Mental condition unknown.
10. Mother's brother. Single, died at 60. Mental condition unknown.
11. Mother's brother. Died at 60 in a state hospital. Diagnosed general paralysis. No formal schooling, could not read or write, moderate wine drinker, married, had one son and one daughter.
12. Mother's brother. Mental condition unknown.
13. Mother. Psychotic, excitable, high-strung, actively hallucinated and expressed numerous ideas of persecution. Never committed. She died at the age of 69 of cancer of the breast.
14. Brother of the patient. Died at 16 from an auto accident. Mental condition unknown.
15. Patient in Kings Park State Hospital. Admitted to Kings Park State Hospital on October 7, 1933. Single, aged 26, diagnosed dementia præcox, hebephrenic. As a child, he was quiet, seclusive, never got along with the family, quarrelsome, suspicious and frequently got into difficulties. In October, 1922, he was sent to the children's court for petty larceny for stealing an auto tire and from there was sent to the New York Catholic Protectory. Previous to admission to Kings Park, he became indifferent, muttered to himself, threatened everyone, heard imaginary voices and a buzzing in his ears. He complained of recurrent attacks of abdominal disorder. At the present time he is regressed, simple, silly and inadequate.
16. Patient in Kings Park State Hospital. Admitted to Kings Park State Hospital on December 18, 1936. Single, aged 20, diagnosed dementia præcox, hebephrenic. He was in an orphan home until six years of age, reached the fifth grade in

school, and then was in an opportunity class for nine months. In May, 1922, he was in children's court for assault. He had stabbed another boy, but the case was dismissed. In August, 1924, he was in children's court as a delinquent child, having stolen a bicycle. He was sent to the New York Catholic Protectory and paroled in December, 1924. At the age of 16, in February, 1926, he was committed to the New York House of Refuge from the children's court, having stolen jewelry and silverware valued at $210. In June, 1926, he was committed to the Institution for Defective Delinquents at Napanoch. Here he was found to have an I. Q. of 59. In September, 1929, he was committed to Middletown State Hospital. He was transferred to Creedmoor State Hospital on March 6, 1930, and paroled on September 21, 1930. He was returned on September 26, 1930. For a number of years previous to his admission to the hospital, he had refused to work, was dull, stupid, talked incoherently, was indifferent to his surroundings, heard imaginary voices and expressed bizarre delusions. Up to the present time, there has been no change. He is actively hallucinated and disturbed.

17. Patient in Kings Park State Hospital. Admitted to Kings Park State Hospital on March 18, 1930. Single, aged 19, diagnosed dementia præcox, hebephrenic. He was considered a healthy child, began school at six, left in the fourth grade at the age of 14. He was seclusive, shy, backward, showed strong attachment to his mother. In March, 1924, he was in the children's court because of an attempt to steal a radio set. In April, 1924, he was committed to the New York Catholic Protectory, and was released in November, 1925. A week previous to admission to the hospital, he became nervous, restless, could not sleep, laughed and talked to himself, did not seem to recognize members of his family. He kept striking his head against the wall. He was paroled from Kings Park in December, 1932, and discharged in December, 1933. He was readmitted to Kings Park State Hospital on September 15, 1934. Two months previous to admission, he became excited, restless, irritable, stayed out all night, refused to eat, tore his clothing. At the present time he is mute, untidy, regressed, dull and indifferent.

18. Sister of the patient. Admitted to Kings Park State Hospital on March 25, 1931. Single, diagnosed dementia præcox, hebephrenic. She was intelligent, got along well in school, worked and supported her mother and was a devout church member. Claims she flirted with the priest and he had her arrested. She became boastful, egotistical, self-satisfied, and expressed auditory hallucinations. She became very erotic and had a decided sex trend toward the priest.

19. Brother of the patient. Married, 43 years of age, one son. He says that in 1930 his wife tried to get rid of him by putting poison in his food which made him very sick. He began to hear noises in his ears, and the doctor told him to go to a state hospital but he became better in three months. He said he had had epilepsy until he was 10 years old and that he used onions to cure it. He is a very simple individual, unemployed at present. He keeps talking about various food diets and reads a great deal about vitamins.

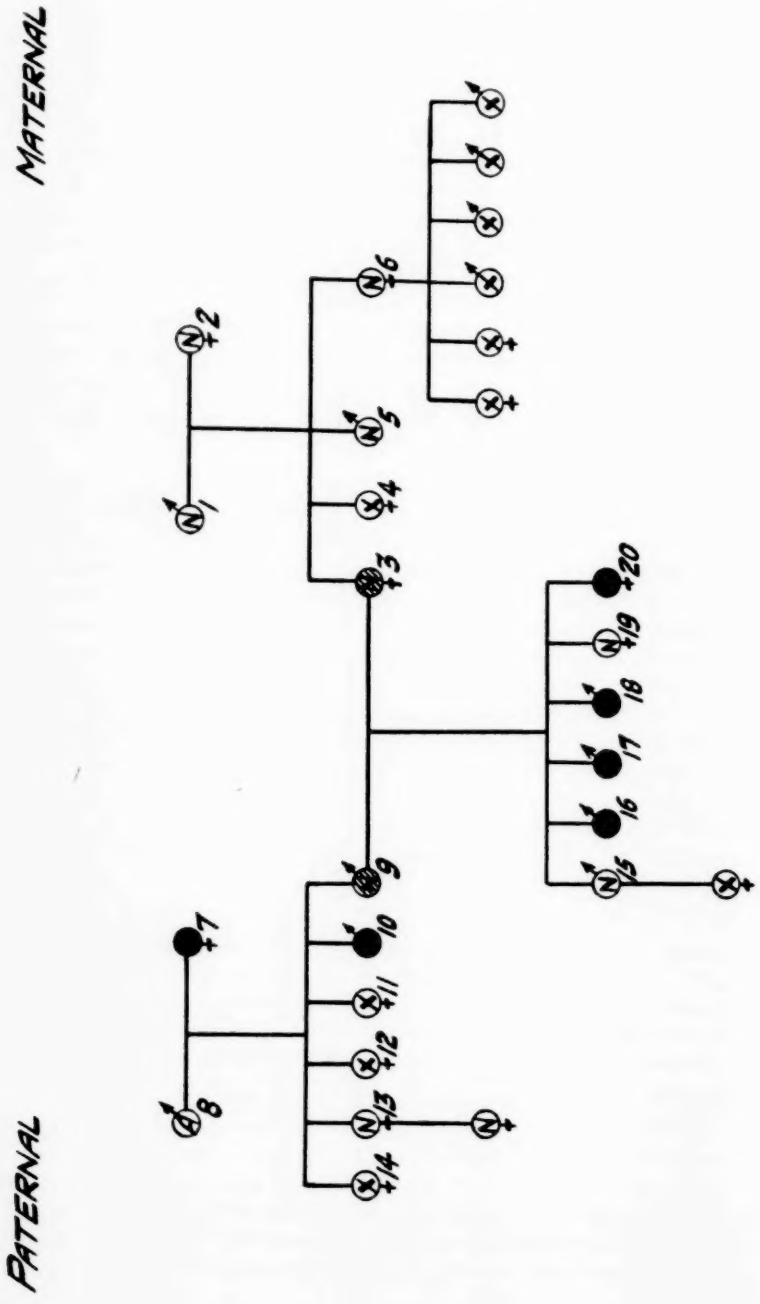

Figure 3

The family tree, shown in Figure 3, is similar in its general significance although somewhat less laden with psychotic cases, and there is little doubt that such strongly tainted family trees of schizophrenic patients could be duplicated indefinitely. Their apparent rarity may largely be due to practical difficulties in obtaining adequate information about the blood relatives of schizophrenic patients rather than to the actual absence of additional psychoses in the consanguinity of dementia præcox cases.

Figure 3

Maternal:

1. Grandfather. A merchant, he died at 84 years. Mental condition unknown.
2. Grandmother. She died when her daughter was six years of age. Mental condition unknown.
3. Mother of patient. "Peculiar." Age, at present 68 years.
4. Mother's sister. Died at 16 of pneumonia. Mental condition unknown.
5. Mother's brother. Scholar and teacher, married at 24, died at 45. Mental condition unknown.
6. Mother's sister. Married at 24, had six children, two girls and four boys, died at 50 years of cancer. Mental conditions unknown.

Paternal:

7. Grandmother. Nervous, overly religious, would get up in the middle of the night to go to church and would not take care of the children. She died at 70.
8. Grandfather. Lawyer, alcoholic, died at 84 years.
9. Father of the patient. Cigar maker, very jealous, accused his wife of infidelity, had "temper," wanted to move from place to place. He died at 52 of cancer. Probably psychotic.
10. Father's brother. Married, divorced two years after marriage, no children. Very "nervous," would stay in bed for three months and then would run away from home for a few months. He died at 54 years of age.
11. Father's sister. Died at 19 years following operation. Mental condition unknown.
12. Father's sister. Mental condition unknown.
13. Father's sister. Married, had one daughter. Died at 60. Mental condition unknown.
14. Father's sister. Died at 54 years. Mental condition unknown.
15. Brother of patient. Married at 34, had one daughter, printer, age at present 46 years. Mental conditions unknown.
16. Brother of patient. He became mentally ill at 16 or 17 years, wrote an extortion letter and was committed to a mental hospital. He committed suicide at the age of 28 by swallowing nails. Diagnosed dementia præcox.
17. Brother of patient. He became mentally ill at 16 or 17 years, died at 31 following metrazol therapy. Diagnosed dementia præcox, hebephrenic.

Discussion

Regardless of considerable differences in the morbidity rates obtained for the various groups of blood relatives of schizophrenic patients, the consensus of most investigators is that the incidence of dementia præcox in the consanguinity of dementia præcox cases exceeds significantly that in the general population. Since this difference cannot be adequately explained by corresponding variations in environmental circumstances, it is to be concluded that a specific genetic factor, or a certain combination of factors, plays an important part in the causation of the disease.

The question of the particular fashion in which this hereditary factor is transmitted and expressed may still be regarded as more or less unsettled, but there is no point in speculating upon whether a "Mendelian" type of heredity is at work. There is only one basic phenomenon of heredity, and this phenomenon is known to operate according to Mendelian principles, even if the phenotypical expression of some Mendelian character is found to be too irregular to satisfy any orthodox expectations of simple Mendelian ratios. Whenever the expressivity of a genetic factor is demonstrated by twin studies to be less than 100 per cent, it simply cannot be expected that all of the homozygous carriers of the factor will be capable of manifesting the given trait in a visible manner (Kallmann[28]).

According to Huxley,[29] "every character is dependent on a very large number of the genes in the hereditary constitution, but some of these genes exert marked differential effects on the visible appearance." Considering not only the intricate interactions of genetic, psychosomatic and social factors in the development of any psychotic manifestations, but also the relatively frequent occur-

18. Patient. Admitted to Kings Park State Hospital on November 15, 1916. Single, 19 years of age, diagnosed dementia præcox, hebephrenic. Birth and early development said to have been uneventful. He received very little education, was barely able to read and write. He was described as sociable, made friends easily, worked as machine operator on clothing. Two years before admission, he suddenly quit work, complained of feeling ill, did not leave the house. At the present time, this patient is mute, inaccessible and self-absorbed.

19. Patient's sister. Married at 27, graduate of Cornell, age at present 31. Mental condition unknown.

20. Patient's sister. Aged 28, patient in Creedmoor State Hospital since the age of 25. Diagnosed dementia præcox, hebephrenic.

rence of dementia præcox, which in itself implies a fairly extensive variability in the expressivity of the schizophrenic genotype, it seems safe to accept Kallmann's contention that the genetic analysis of dementia præcox has shown a perfectly normal (recessive) inheritance of the main gene concerned, but an irregular expression of this gene due to the modifying effects of both secondary genes and various environmental influences.

In his contacts with numerous experienced psychiatrists, the author has met only a very few who did not admit the significance of heredity in the etiology of dementia præcox. Unfortunately, however, the same psychiatrists are much less assertive in their professional dealings with relatives of schizophrenic patients seeking advice, either because of a tendency to comfort these families in a false sense of kindness or because of the fear that the recognition of genetic concepts might lead to a general attitude of hopelessness and futility. Many physicians still hold the erroneous belief that "curability and inheritability of a disease are incompatible;" they forget, of course, that a thorough analysis of the varying expressivity of a genetically determined trait "might prove to be the best way of clarifying the means by which to prevent and to heal the anomaly in question" (Kallmann[28]).

Concerning the preventive aspects of dementia præcox, it was shown by various investigators that sterilization of all hospitalized schizophrenics would not prevent the births of more than from 1 to 3 per cent of schizophrenic individuals. In order to obtain greater success in regard to the prevention of schizophrenia, it would be essential to encourage the promotion of eugenic principles among the tainted children and siblings of schizophrenics. "Especially inadvisable are fertile marriages of schizoid persons and schizophrenic borderline cases with individuals who either manifest certain symptoms of a schizophrenic trait themselves or prove to belong to another strongly tainted family" (Kallmann[30]).

Consequently, the psychiatric objectives in the handling of dementia præcox cases may be outlined as follows.

1. The systematic efforts of modern psychiatry to reinforce the constitutional resistance of schizophrenic patients to their psychotic process by "shock" therapy and other available methods should be intensified and applied at the earliest possible moment.

2. All available means of mental hygiene and psychotherapy should be used in an attempt to improve the social adjustment of potential or partially recovered schizophrenics and their families.

3. Married women and prospective brides should be advised against the bearing of children during or after a schizophrenic psychosis, in order to avoid any unfavorable effects of the pregnancy upon their own status of health.

4. Recovered male patients and potential schizophrenics among the closest blood relatives of true dementia præcox cases need not be discouraged from marrying, but should be instructed to have no children, especially when the prospective mate is found to be schizoid or a member of an equally tainted family.

Conclusions

1. The results of all important studies on the hereditary nature of dementia præcox have been reviewed, with the emphasis on an analysis of the statistical methods employed.

2. In evaluating the various morbidity rates for blood relatives of dementia præcox patients it has been evident that there is a tendency to underestimate the incidence of the disease.

3. The evidence presented from the author's own material of schizophrenic family trees supports the genetic theory of dementia præcox and especially Kallmann's assumption of a recessive type of inheritance.

4. It has been explained why a thorough knowledge of the genetic aspects of dementia præcox would promote a constructive rather than a fatalistic attitude toward the therapeutic and prophylactic problems of the disease.

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THE NEUROTIC CHARACTER STRUCTURE OF THE ALCOHOLIC PERSONALITY

BY DOMINICK A. BARBARA, M. D.

The problem of the relationship between alcohol and human behavior has been one of considerable controversy and discussion. In this report, an attempt will be made to consider the problem of alcoholism as resulting from a symptom of an underlying neurotic character structure, and not merely as a disease entity. Moore clarifies this aspect of the problem in stating: "Formerly heavy drinking was considered as a mode of behavior entirely apart from the general background and mental attitudes of the patient. Medical treatment was symptomatic. The cure of the 'drink habit' was considered almost out of the sphere of medicine. Today it is recognized that alcoholism is a symptom of underlying psychologic or social maladjustments."

Recent Literature on the Alcoholic Personality

Concerning the personality makeup of the alcoholic, there seem to be as many divergent opinions as there are alcoholics. The following are but a few of the most important etiological viewpoints.

Moore, in a recent discussion on chronic alcoholism gives a practical definition by dividing the chronic drinkers into two well-recognized groups: "Opinions as to what constitutes chronic alcoholism vary widely. At one extreme stand those who maintain that the daily moderate use of beer or wine at dinner constitutes chronic alcoholism, while at the other extreme are those who insist on constant intoxication as the criterion for such a diagnosis. I reserve the term 'chronic alcoholism' for those individuals whose drinking interferes in their normal occupational and social activities, whether this occurs constantly or periodically. Further division of chronic alcoholic patients into two groups may be made. In the first group are the constant, steady drinkers, the 'addicts,' who most generally commence the day with a drink on awakening. These individuals drink not only to relieve psychologic distress but also to overcome symptoms resulting from the

previous day's alcoholic intake. In their treatment, therefore, are two problems—the relief of the symptoms due to alcohol and the relief of the symptoms (physiologic or psychologic in nature) which led them to alcoholism. In the second main group of chronic alcoholic patients are the periodic drunkards, who go on sprees which may last for days, weeks or months, but who are continent drinkers or even abstainers between bouts. In these patients psychologic problems are dominant and the results of psycho-therapy are most gratifying."

Lewis divides the etiology of alcoholic addiction into three parts, namely: (1) predisposing factors which may be a part of the fundamental personality organization or may include allergic factors, biochemical deficiencies, or cravings existing on a physical basis which are in part relieved by alcohol, (2) precipitating or extrinsic factors in the form of either accidental or situational occurrence, (3) complications which may exist as a combination of the other two just mentioned and may be modified by the type of alcoholic beverage taken and by the effect of the alcohol itself on the constitution.

Fleming emphasizes that the varied symptomatology of acute alcoholic intoxication depends mainly upon the interplay of two main factors, namely, the pharmacological action of alcohol on the organism and the personality of the intoxicated individual with its constitutional and acquired components.

Read, Abraham, Ferenczi, Schilder, and other psychoanalytical writers stress the factors of regression, narcissism, and latent homosexuality at the roots of chronic alcoholism. According to Strecker, the alcoholic, because of his emotional immaturity, is unable to face reality and utilizes alcohol as a means of readjustment to society. In regard to the problem of sex, Strecker states: "Because of the arrested maturity that exists in so many abnormal drinkers, with the neurotic background presenting the spoiled child picture of over-dominance and over-indulgence, we find, we think, a situation best described as 'latent heterosexuality,' that is, the alcoholism is used to evade a mature facing of reality and this is an arrest all along the line. The responsibility involved in a mature facing of sex, naturally, is also evaded, not necessarily by reason of homosexuality. There is in this group much promiscuity

and in general the attempt to resort to the smallest fraction of sex involving a minimum of emotional and social responsibility." According to Bigelow and his coworkers there is a definite personality makeup in individuals who develop acute hallucinosis, characterized mainly by: lack of marital and sex adjustment, a high degree of narcissism, dependency on the family, nonaggressiveness, homoerotism, and lack of gregariousness.

Studies by other contemporaries in this field have attributed alcoholism secondarily to constitutional anomaly (Henderson); hereditary factors (Masters); and an allergic state (Silkworth). Seliger offers us the most complete etiological factors of excessive alcoholism. He summarizes them as follows: "1. As an escape from situations of life which he cannot face; 2. As evidence of a maladjusted personality (including sexual maladjustments); 3. As a development from social drinking to pathological drinking; 4. As a symptom of a major abnormal mental state, such as a depressive or schizophrenic reaction, etc.; 5. As an escape from incurable physical pain; 6. As a symptom of a constitutional inferior—a psychopathic personality, i. e., an individual who drinks because he likes alcohol, knows he cannot handle it, but does not care."

Whitaker emphasizes the psychobiological approach to the problem of alcoholism. According to his reports: In a study of 158 alcoholics (Syracuse Psychopathic Hospital) of whom 81 were considered at the time of the study to be cases "without psychosis —chronic alcoholism," and without complication, adequate followup information was procurable four years after hospitalization on 26 patients. There were 47 per cent of these 26 patients who showed a definite improvement in drinking habits.

Davidson, using the Adlerian point of view concerning feelings of inferiority and frustrations underlying individual strivings for power, puts emphasis on the excessive use of alcohol as a means of arriving at a more comfortable state of resistance toward frustration along these lines. In his opinion, alcohol may play either a compensating or a defensive action toward an unpleasant situation.

The Neurotic Personality Structure of the Alcoholic

The existing pattern of our modern culture is one of individual competition and conflicting tendencies. In order to survive in such an environment, individuals are compelled to compete against each other to obtain economic security and success. This creates a continually moving potential hostility and tension which prevails in all human relationships. It disturbs not only the relationships between individuals of the same sex; but also those between men and women and those of the family situation. The constant fear of failure, isolation and retaliation in such a society disturbs one's self-esteem and conflicts with one's basic needs for warmth and affection. The emotional frustrations existing in such an environment present a fertile ground for the development of neurosis. Only the fittest can survive in such a disturbing atmosphere. The normal personality, therefore, differs from the neurotic only in degree and quantity of its resources for meeting such a conflicting situation.

Horney clearly illustrates this by stating: "These contradictions imbedded in our culture are precisely the conflicts which the neurotic struggles to reconcile: his tendencies toward aggressiveness and his tendencies toward yielding; his excessive demands and his fears of never getting anything; his striving toward self-aggrandizement and his feeling of personal helplessness. The difference from the normal is merely quantitative. While the normal person is able to cope with the difficulties without damage to his personality, in the neurotic all the conflicts are intensified to a degree that makes any satisfactory solution impossible."

According to Freud a neurosis is the result of the constant struggle between the primitive instinctual drives or forces of an individual and the opposing demands of society. He places little emphasis on the changing forces of our culture but considers it merely as if it were a static phenomenon in which are present the ever-moving and discharging libidinal impulses. Freud places at the core or basis for all neurosis the accompanying underlying anxiety, which was formed only in childhood, namely that associated with birth and the castration fear; and he holds that further anxiety is merely a repetition of such infantile fears. The writer here tends to disagree with Freud and bases his conceptions on

those of Horney. She agrees with Freud that it is invariably found that the formation of anxiety in character neurosis begins in early childhood, but holds that that of the adult neurosis is not a repetition of previous infantile fears but comes about merely as a result of a faulty development of the total personality makeup.

In the adult neurosis, one discovers a series of anxiety episodes and conflicting trends with its defense mechanisms evolving from a primary or "basic anxiety." This basis for anxiety develops primarily from a traumatic and distorted childhood. It is in this stage of development that the child understands primarily nothing but a need of love and affection from his parents, which he demands and expects. A loss of human relationship and love at this period of development, when the child is most dependent upon these supports, may lead to a state of emotional stirring which is difficult to understand or accept. It is at such a phase, that the individual may withdraw from reality and live in a world of fantasy; or a basis for anxiety may set in, with the formation of neurotic trends toward the loss of security and happiness. The child is thus rendered insecure and helpless and is compelled to search for new ways to cope with life in a safer manner. His constant fear of punishment from either one or both parents, distorts the developing personality of adulthood, with the formation of a harsh and critical suger-ego. In order to combat this ever-growing state of anxiety, neurotic trends are formed with their secondary defense mechanisms. The individual is thus compelled to create false personality goals as a means of compensating this constant state of uncertainty.

Alcoholism is not being considered as a disease entity in this paper, but merely as an underlying symptom of an adult neurosis. From early childhood, the alcoholic is subjected to a state of insecurity in relation to his parents and siblings. Because of the constant state of feeling ridiculed, belittled and threatened by corporal punishment or deprivation, he assumes a passive attitude. His community is experienced as one of intolerance and authority. Interpersonal relationships become distorted and the individual usually becomes submissive, yet self-assertive and aggressive. Schilder places great emphasis at this point of childhood traumata on the intolerance of the punishing parent toward sex. He writes,

"Men generally blame themselves for their 'femininity' and seek redress in overcompensation. In women this process may be similar or they feel incapable of fulfilling their feminine functions. Alcoholism reverses these processes as long as intoxication lasts, but the underlying tensions and terrors reappear in increased form afterwards and demand renewed drinking." The alcoholic drinks in order to alleviate anxiety associated with the persistent fear of isolation, apprehension, and excessive need of affection. He is a suffering individual with deep-rooted unconscious difficulties which he is unable to solve. His rigid personality and his inability to measure his true potentialities make him weak and irresponsible. His early hurts and emotional traumata and his constant fear of retaliation cause him to evade competition and seek the easiest escape from reality. The alcoholic is the result of a faulty childhood and an ever-pressing and conflicting civilization. His "morbid dependency" on others for advice, stimulation, gratitude and responsibility conflict with his compulsive need for independence and freedom. His neurotic drives to be perfect, powerful, and unique to compensate for his inferiority make it impossible for him to conform to the normal expectations and standards of interpersonal relationships. These conflicting trends thus create tremendous anxiety which continually moves about in a vicious circle and can be allayed only by the excessive use of alcohol. Under the influence of such a drug, the alcoholic remains no longer inhibited but can find a discharge for his pent-up anxiety. As long as this state of intoxication persists, the alcoholic finds a temporary solution for his mental conflict and eases his means of establishing normal interpersonal relationships. Alcohol also offers him an opportunity to fulfill his masochistic tendencies in punishing himself for his weak and irresponsible makeup. Under this narcotic state, he can escape the boredom and dissatisfaction which are typical of his introverted personality. This use of alcohol, which at first serves as a means of escape into a world of fantasy, builds up all the more conflict and anxiety, thus setting in motion a vicious circle and finally a complete dependence on alcohol.

Case Illustrations

The following two case reviews will be presented in some detail, with the object in mind of illustrating the salient neurotic trends leading to an adult neurosis associated with the problem of alcoholism.

Case 1

P. B., a single 62-year-old grocery clerk, was admitted to Central Islip State Hospital on a voluntary application on November 13, 1944. Upon admission, he offered a history of an alcoholic spree of 10 days duration during which he consumed as much as one and one-half quarts of whiskey a day. From the hospital records, it was discovered that the patient had had 11 previous admissions, all of which were on voluntary bases. He appeared to be tremulous, confused, anxious, fearful, and poorly oriented. Just prior to his present admission, he had begun to experience visual hallucinations in the form of snakes and weird animals crawling about his bed and room. The physical examination appeared to be essentially negative except for fine tremors of the muscles of the hands and face. He was diagnosed delirium tremens.

The family on both sides was Irish, "middle class," with no history of mental or organic disease. The patient was the second oldest of five siblings. The family environment was one of poverty and economic stress. Both parents were described as being honest, vigorous, intolerant and religious. The father was pictured as the dependent element in the family, and the one to whom the patient held for great support. In P. B.'s early childhood, he was seclusive and shy and was never at ease with the other children in the village in Ireland. In regard to his parents, there was always a constant fear of not meeting with their demands and of receiving some form of punishment in return. Economic conditions grew considerably worse at home, and when P. B. was 15 years of age, the father decided to send him to an uncle in America who lived alone and could support the boy. He pleaded with his father to allow him to remain at home, but was unsuccessful. This caused a tremendous sense of rejection and resentment.

The boy remained with his uncle for the next 10 years in a totally alien and unhappy environment; and upon the death of this

uncle, he inherited some money which he immediately invested in a grocery business, an endeavor to lead an independent existence which lasted but a short time before it was necessary for him to go into bankruptcy. P. B. became highly depressed following this failure; and it was at this period that he first began to use alcohol as a means of escape from reality. He began to move from job to job and was never able to succeed in any field. The last phase of P. B.'s history to date finds him employed as a grocery clerk on Long Island. He has become closely attached to the manager of a store who understands his condition and closely supervises his behavior. In such an environment, he is at ease until some conflicting problem arises which precipitates the beginning of a new alcoholic spree and finally leads him to hospitalization.

Discussion. P. B. is a product of an intolerant and authoritative early childhood, which was predisposing to the formation of a weak and rigid personality. His ambivalent attitude toward the father in the sense of love on one side, and yet resentment and hatred for having been alienated from him and rejected on the other; create tremendous hostility and a basis for anxiety. We find in him an individual with underlying neurotic trends, which apparently had developed in early childhood, a person who was continually striving for some form of dependency and reassurance. His need for warmth and affection conflicted with his compulsive need for independence, and created tremendous anxiety which continually moved in a vicious circle.

Following the death of the uncle, a desperate attempt was made on the part of the patient to lead an independent existence. Here again defeat was met when the individual failed to succeed in his own business. He became emotionally frustrated and by chance discovered in the use of alcohol, a means of allaying this ever-increasing state of anxiety. His failure in business was rationalized on the basis of his extreme generosity in extending credit to customers for which he was never recompensed. One thus discovers in such an individual the neurotic need to gain the affection of others at all costs, even to that of failing in business; or this may signify merely a means of placing the blame on others for failure of his first enterprise. In the final stage of the present history, an attempt has been made to return to his primitive need for a

"morbid" dependency, which was satisfied by obtaining a position with a kind and understanding store manager. This individual was someone he could depend upon for advice, stimulation, gratitude and responsibility. In spite of this false sense of security, other conflicting problems arose constantly throughout the day in relationship to his contact with society as a whole. His need to be "perfect," to "excel" and be "unique" made P. B. feel superior to others; and, because of his rigid personality, he was unable to conform to the normal expectations and standards of interpersonal relationships. The constant fear of failure, isolation and retaliation in such a competitive circle disturbed his self-esteem and conflicted with his basic need for warmth and affection. It revived childhood experiences of having to be exact and precise or receive punishment in exchange. The patient describes this quite clearly in stating, "I was brought up in a strict fashion and had to be exact or else I would be punished. My father always reminded me to behave and follow the moral code. I've always wanted everything to run smoothly or else it would bother me. My boss was always good to me, but when the sales at the store began to fall this last time he became very angry and told me I was more trouble than good. He didn't speak to me for the next three days. He then placed a younger fellow in my place, which made me feel very bad, so I decided to quit and get good and drunk. I'm sorry now it all happened. I just can't seem to take it any more."

To go back to the discussion of the underlying mechanisms in this presentation, one can see that the slightest criticism or rebuff on the part of this "partner" on whom he is dependent causes him to become humiliated and hurt. His weak and insecure introverted personality could not be made to accept existing conditions. The mere fact of being replaced by a younger individual increased all the more fear of competitive struggles, which to him represented isolation, retaliation, and the loss of security.

Alcohol, therefore, offered this individual the only means of finding a temporary solution for his emotional conflicts and also gave him a means of fulfilling his masochistic tendencies in punishing himself for his weak and irresponsible makeup. This use of alcohol, which at first served as a means of discharging pent-up

anxiety, built up all the more conflict and anxiety, thus setting into motion a vicious circle and a complete dependence on alcohol.

Case 2

T. P., a widowed, unemployed negro, aged 35, was admitted to Central Islip State Hospital on October 22, 1940, after an alcoholic spree of two weeks which reached a climax when he threatened his mother with bodily injury. He was found to be emotionally tense, anxious and bewildered. He presented definite delusional trends which were mainly about his mother whom he referred to as having "authority and magical influences over him." He admitted the excessive use of alcohol for the past 10 years and that he had had auditory hallucinations in the form of a woman's voice threatening him with punishment. His sensorium was slightly impaired. The physical examination was essentially negative. His diagnosis was alcoholic psychosis, paranoid type.

The family history revealed no significant factors from an hereditary standpoint. He was the only child of a "middle class" American negro family. The mother was described as domineering, stubborn, and severe. The father was submissive, gentle and understanding. The family environment was one of continued friction and quarrels, which centered mostly about a sense of jealousy on the part of the mother. During T. P.'s entire childhood, he was closely attached to his mother who dominated him and rigidly prescribed his mode of behavior. In spite of this, he was extremely affectionate toward her and attempted to win her over on every occasion with his kissing and hugging. Up to the age of 12, he slept in the same room with the mother in a bed close to her. He would often have nightmares of being tortured to death, or being buried alive; and on these occasions he would find relief by cuddling himself next to her. When T. P. was 16, his father deserted the family after a heated argument, and his whereabouts were never ascertained. The boy now abandoned school to assist his mother financially. He derived tremendous satisfaction in this masculine rôle of replacing the father; and in that of assuming an independent existence. In spite of this new endeavor of his to win over the affections and love of his mother, she treated him with reserve and became all the more ridiculing and harsh. She

would often refer to him during this period as being "lazy and good-for-nothing like his father." This sense of being belittled by the mother, whom he loved so much, was a protest to his masculinity. He now had to find other means of arriving at such a goal and at the same time of maintaining his affection and warmth from the mother. This masculine achievement was accomplished by stealing, drinking, and being a Don Juan among the girls in the neighborhood.

When he was 26 years old, T. P. met a girl to whom he became strongly attached and whom he desired to marry. The mother strongly objected, but after much deliberation, he received permission to marry provided the wife was brought to live in the same house with the mother. His strong attachment to the mother and his emotional immaturity made it difficult for him to adjust to this marriage, and he gradually increased his alcoholic sprees to as many as three and four a week. During these escapades, the mother would constantly search for him in bars and bring him back home—to ridicule and belittle him all the more. By some strange fate, the wife died three years after the marriage of a kidney ailment. He brooded over this for weeks and resumed once again his alcoholic sprees. Just prior to his hospital admission, he became threatening and assaultive toward his mother following a discussion about his drinking, and was sent to Bellevue Hospital on her complaint.

Discussion. T. P. is a product of a harsh and severe mother who dominated his life and shook his feelings of security. This ambivalence toward the mother aroused in him tremendous rage and protest. The need for warmth and affection conflicted with his sense of independence and masculinity. These unconscious feelings of hatred toward the mother demanded definite punishment. As a child he received such punishment in his dreams and in the compulsive fears of being buried alive. His alcoholic sprees later were symbolic of this need, with the thought of injuring his health and carrying out a desire for suicide. His first move toward independence became frustrated in the attempt to assume the rôle of the father after his desertion. The absence of the father in such a family environment further enhanced the important rôle of the mother. His second attempt, which was made through marriage,

built up all the more conflict and anxiety. His closely bound emotional ties with the mother and his emotional immaturity made it difficult for him to transfer his love to another person. This failure on his part, which he found difficult to understand, made him hate himself and increased all the more his rage and hostility toward the mother. The use of alcohol was now needed, even to a greater extent than ever before. Following the death of his wife, the emotional stirrings, which at one time could be compensated for in some form or another by alcohol, now become without hope of release. This unconscious hostility and rage which he once projected on to himself and on to his environment was brought to a conscious level. All powers of concentration and accepted bases of reasoning and judgment were destroyed, finally leading to a psychotic level which was manifested by threatening to assault the object of hatred.

Summary and Conclusion

Alcoholism in this paper has been treated as a symptom resulting from an underlying neurotic character structure. The alcoholic is the result of a faulty childhood and an ever-pressing and conflicting civilization, finally leading to an adult neurosis. Under the influence of such a drug, the alcoholic finds a temporary solution for his mental conflict and eases his means of establishing normal interpersonal relationships. However, this use of alcohol, which at first serves as a means of escape, builds up all the more conflict and anxiety; and finally a complete dependence on alcohol is established.

In conclusion, two case reviews were presented, illustrating the salient neurotic trends leading to adult neuroses associated with the problem of alcoholism.

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EDITORIAL COMMENT

MAY THE REVERSE BE THEIR LOT!

One of the horrid fascinations of watching the rise and fall of the Nazi German empire and the ascent and degradation of the individual German has been the awful reflection that there, but for the Grace of God, went and marched and *heiled*, not John Wesley, but the United States of America, and John Doe and Richard Roe and G. I. Joe, Americans. For the German is not of much different original material than ourselves; the physical anthropologists long ago exploded the idea that there were any significant structural differences among the peoples of Europe, or, for that matter, any vastly important ones among the peoples of the entire world; and the psychologists have likewise failed to find any great variance as between one group and another in I. Q.'s or other well-recognized indices of mental capacity. In fact, all of America and all of Europe from Gibraltar to the Urals have certain ancestry in common; their languages—such tongues as Basque, Magyar and Finnish excepted—derive largely from a single prehistoric source; their culture has been largely a single heritage, with local evolution and adaptation of basically like institutions; and, in narrower application of the thesis, there is hardly a corner of Europe or a corner of the world settled by men and women from Europe which has not absorbed peoples from the Germanic tribes or adopted elements from their thought and their specialization of Europe's basic culture within historic, or even—as in the case of the United States—very recent, times.

Freud and the psychoanalysts told us long ago—but it was difficult for the most thoroughly convinced intellectually to have full insight into the reality—of the terrible forces which moved in the prehuman jungle of the unconscious. In modern Germany and the modern German, those of us who realized what we were watching saw those forces released, freed of the checks of the normal super-ego, removed from the restraints of a social conscience. We saw aggression unchained, destruction loosed, Thanatos and Eros united in a sadism made possible only by the scientific achievements of an otherwise discarded civilization—all of this directed, if there can be said to have been direction at all, not by the conscious, organized modern mind of man, but by that horrifying parody of the intellect, the ruthless false ego of paranoia.

We learned a little of this horror as beaten and betrayed nations fell, as panic-stricken, unarmed peasants fled the machinegunning, as the sullen hostages died for other men's patriotic murders, as the bombs reduced, like Nineveh and Tyre, great cities of Britain and the low countries. We had a word of this when the *Athenia's* refugee children sang "Roll out the barrel" as the pitiless men Hitler sent to sea plunged them, helpless, to drown under the Atlantic. But we think it took the capture of the concentration camps to bring full realization home—the camps where the Germans endeavored to exterminate the Jews, the liberals and the intellectuals of Europe. We knew of them, of course. When Jan Valtin wrote "Out of the Night," his chronicle was too horrible for easy belief; when the Russians overran the first camps in eastern Poland, their reports were still hard for ordinary Americans to credit. But when the Americans and the British swept over, in western Europe, the places where the Nazis had enslaved, tortured, starved and burned alive Jew and patriot and political opponent, when people of our own kind, speaking our own tongue, rescued and heard the testimony of the wracked survivors, we think some appreciation of just what unleashed, subhuman cruelty had done began to penetrate American minds.

Those first reports of this horror came from soldiers and news correspondents. It seems worth while to note that we now have the competent professional testimony of just what was done and of its effects on the survivors from allied army medical men. To those who have not seen these accounts, we commend "The Horror Camp" and "Belsen Camp: A Preliminary Report," by W. R. F. Collis, M. D., F. R. C. P., F. R. C. P. I., D. P. H., an editorial and an eye-witness account by a Dublin physician, both in the "British Medical Journal" of June 9, 1945. This report is of interest not only because of the pitiful condition of the camp survivors and because of the heroic and, on the whole, successful measures taken by the British to aid them, but is of particular interest to the psychiatrist because of the rôle played by the German doctors before Nazi control was overthrown. We know of the mad scientist of fiction. Recently, we have heard of the fantastic plans of certain scientific groups in Germany for an apparatus by which in a future war the sun's rays could be concentrated to burn cities, boil oceans and melt continents into lava to establish German world rule. But these scientists of fiction were not physicians for the most part.

There were physicians at Belsen. We have no knowledge that they engaged in human experimentation with infectious diseases or human vivisection—practices the Russions reported in the east—but there is incontrovertible testimony that they were the arms of death, the executioners, men who walked with syringes filled with benzene and creosote for intravenous injections of prisoners doomed to the crematories. And, more recently, there has been apparently competent, though nonmedical, testimony that the American armies have found at least one mental institution where the doctors, the physicians supposedly devoted to their care, were the executioners in a euthanasic program of extermination of persons useless in war and costly in maintenance, Germany's mentally ill. These executioners were physicians; these men had all completed scientific studies designed for the service of humanity; they had dedicated themselves by the great and ancient Hippocratic Oath. That they were capable of the Nazis' filthiest work after dedication by that oath is difficult to comprehend, even by those who know well enough theoretically the horrible depths of bestiality which may be reached by the primitive forces of the unchained unconscious. Subjected to the evil indoctrination of Nazi theory, we Americans might have been capable of evil of the Nazi pattern ourselves. But physicians had always supposed that the taking of the Oath of Hippocrates was a strong indoctrination in itself, that in a sense it was an added personal super-ego. That the Belsen and other concentration camp physicians could dishonor so vilely the professional code of the oath—after the rapé of their individual consciences—is hard to understand. But the fact seems incontrovertible. "It will be some time," says the "British Medical Journal," "before we can look upon German doctors as men imbued with the ideals of medicine common to civilized countries . . ." To our mind, that is an impressive use of understatement. We agree with our British colleagues that we should not condemn all the Reich's physicians without trial by "supposing that all German doctors are like the doctors in Belsen." But that some of them were doctors in Belsen is a shame generations will not forget.

"While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times! But should I trespass and violate this Oath, may the reverse be my lot!"

The Nazi concentration camp physicians have brought shame on themselves, on their profession, and on humanity by outraging the conscience which has raised man above the beast. By all men in all times, may they be condemned and dishonored! The reverse be their lot!

WHY NOT ATTACK AT THE FIRST STAGE?

Just as cardiovascular syphilis is "the one type of heart disease which is entirely avoidable," mental disorder accompanying syphilis of the central nervous system is one of the few psychiatric illnesses which "are completely preventable." The quotations are from the paper read by Dr. I. Jay Brightman of the State Department of Health at the Bimonthly Conference of the New York State Department of Mental Hygiene last February, a paper published in this issue of THE PSYCHIATRIC QUARTERLY* Dr. Brightman's purpose was to urge that the State's mental hospitals take an active part in stamping out this preventable psychiatric disorder by admitting for treatment patients with clinical signs of neurosyphilis but without pronounced mental symptoms. In the discussion which followed—to appear in the next issue of THE PSYCHIATRIC QUARTERLY SUPPLEMENT, Vol. 19, Part II, 1945—hospital directors and Department officials agreed that such treatment was both practical and legal, pointed out that a number of hospitals were already engaged in the practice of admitting and treating voluntary patients with asymptomatic neurosyphilis, and endorsed Dr. Brightman's appeal for the extension of this important public health service.

Why, if we can treat neurosyphilis in its early stages, should we wait until it is necessary to deal with psychoses accompanying meningo-encephalitis, cerebral syphilis, intracranial gumma, and what all? The conference agreed that we shouldn't. But in the back of the mind of each physician present must have been another question which nobody asked, for futility is exposed in the answer. It is, of course: Why should we have any cases of syphilis at all? For more than a generation, that is, since Ehrlich discovered arsphenamine, medicine has had the knowledge—if the planet had had a beneficent world dictator possessing the power—to stamp out syphilis. With the arsenicals, this would have been a tremendous but not theoretically impossible task, for it would simply have meant treating all existing cases until they were noncontagious, or isolating the resistant patients permanently, in either instance preventing the disease from spreading. Then, two decades later, came the sulfonamides, and physicians began remarking of the venereal infections in general: "We can now cure early syphilis practically all the time and gonorrhea 90 per cent of the time." That was before we had penicillin; and, while we still do not know all the

*Brightman, I. J: Rôle of mental hygiene institutions in the prevention of late neurosyphilis. PSYCHIAT. QUART., 19:3, 361, July, 1945.

possibilities of that therapeutic agent, it may yet prove to be the most powerful and useful instrument in the whole armamentarium of the venereologist.

Why, then, must we endure the continued presence of syphilis (and/or gonorrhea as well)? We all know that it is because our society still refuses to let the medical profession handle the venereal diseases like other diseases, as purely medical problems. We could have virtually rid the country of syphilis and greatly reduced the incidence of gonorrhea long ago if we could have treated these diseases like tuberculosis. We have not been able to do so. This problem has been discussed by us before and the reasons for medical impotence in this situation presented in some detail.* In brief, we cannot treat a venereal disease like a disease because too many well-meaning persons persist in the belief that it is not merely a disease but a deserved punishment for sin. When we try to wipe out venereal disease, say these people, we are trying to make it safe to sin. We are encouraging immorality, familial unhappiness, "broken homes." Furthermore, we are relieving the sinner of the consequences of his acts—we are lifting a deity-imposed punishment. The moralist conveniently ignores the fact that hosts of the innocent—unto the second if not unto the third and fourth generations—suffer with the sinners. He also ignores, or perhaps has never known of, the fact that other diseases than the venereal—epilepsy, tuberculosis, leprosy—have been thought at various times and in various places to be the results of sin. And, lest one suggest that as punishments the venereal diseases are somewhat excessive, it should be recalled that there were extremists in a different field who maintained that death in agony from poisonous denaturants was fitting—if not pleasing in the sight of God—for sinners who persisted in breaking the moral law of the late Volstead era.

If persons of these persuasions could have their minds changed, or if, at the least, they could be stripped of influence on the public health program, venereal diseases could be handled as tuberculosis is, and with vastly greater effect, since we now seem to have virtual specifics against the organisms causing the venereal afflictions, which is not the case with tuberculosis. The excellent results in prewar Scandinavia of programs on purely medical lines are well known. In Russia, despite a great shortage of physicians and despite what seem to us to be the obvious drawbacks of socialized medicine, efforts "on sound medical lines without bringing in any particular racial

*The wages of sin (editorial): PSYCHIAT. QUART., 16:2, 408, April, 1942.

or religious taboos'' are reported to have succeeded to the point where a health commissar for the Ukraine could report as of 1941 that chancroid had completely disappeared, cases of syphilis had declined 90 per cent as compared with 1913, while new cases were few, and the disease ''was disappearing rapidly.'' And a navy medical observer with the American embassy in Moscow has been quoted as declaring: ''The Red Army and the Air Force are virtually free from venereal disease. You can't say that about any other army in the world.''* Noting the uproar in occupied Germany, where many American soldiers seemed to prefer risking venereal infection to paying the fines imposed when application for medical prophylaxis disclosed violation of the ''nonfraternizing'' order, it seems obvious that this cannot be said about our own army, and we have no reason to think ours is less moral than the Soviet forces. We do not hold that society should conclude despairingly with the mad Ophelia that ''Young men will do't, if they come to't'' and so wash our hands of the problem. But we do feel that young men's conduct (and that of others) should be dealt with by social, moral and, perhaps, legal pressures, leaving medicine free to see that—regardless of human conduct—we put an end to this scourge of the centuries.

It has never been the business of medicine to enforce social, legal or moral judgments. The physician is not supposed to fight the less against pneumonia because his patient acquired it after going into a cold night from a warm bed where he had no business to be. The surgeon does not exercise less care in an emergency appendectomy because his patient is a prisoner in Sing Sing awaiting electrocution. There are reports from Germany that today high American medical skill is being enlisted to treat for drug addiction a man who is certain to feel the rope or face the firing squad—the monstrous Goering. If Hitler had been captured after having been wounded, burned or poisoned or after having become deranged mentally, there is no possible doubt—if he had reached the physicians alive—that medical care would have been extended to him. Certainly no physician of any allied army would have deliberately infected or exposed either Hitler or Goering to such a disease as syphilis. Why then, should physicians fail to protest against the continuance of a situation in which innocent as well as ''guilty'' are unnecessarily exposed to infection from syphilis and gonorrhea?

*Scott, J. A.: Venereal diseases in the Soviet Union. Brit. J. Venereal Dis., March, 1945. Reprinted, Am. Rev. Soviet Med., 11:5, 458, June, 1945. Kononengo, Illarion: Public health service in the Ukraine. Am. Rev. Soviet Med., 11:5, 477, June, 1945.

The point of this discussion is to say that while we have no doubt that the New York State Department of Mental Hygiene institutions will cooperate ungrudgingly and without reservation in the treatment of asymptomatic neurosyphilis as a measure of prevention of the psychoses associated with syphilis, we should like the opportunity to cooperate also in more drastic measures, in a radical attack at the point which Dr. Brightman himself cites as the first of the four stages at which late complications caused by syphilis can be prevented—that is, "prevention of the infection in the first place." Dr. James A. Lade, also of the State Health Department, told the same Mental Hygiene Department conference at which Dr. Brightman spoke that there are from 12,000 to 14,000 cases of syphilis of all stages "reported or discovered" each year in up-State New York. In the whole United States, the latest figures indicate there are some 3,200,000 persons with syphilis, and 230,000 new cases annually, with "a minimum of 1,000,000 new cases of gonorrhea" a year.* Evidently we are not attacking syphilis effectively at the stage of "prevention of infection in the first place," by discovering and either curing, rendering noninfectious, or segregating all present cases of the disease. We can do this, not only with syphilis which is of primary interest to mental specialists because of the psychoses sometimes accompanying its later stages, but with gonorrhea and the lesser venereal infections as well—if we can break down the psychological barrier which blocks the road ahead of us. Except that we need more drastic provisions for compulsory treatment and for free treatment when necessary, the laws concerning the venereal diseases are not grossly inadequate now; changes are needed, but public opinion is even more in need of change than the law.

What American medicine can do, if it has the opportunity, may be illustrated by newspaper reports from Birmingham, Ala., concerning compulsory blood tests of adults in that city followed by compulsory treatment of all found to have syphilis in a contagious stage. Preliminary evaluations indicate this procedure was highly successful; but it is obvious that any such program must have the support of the law and—even more important—of strong public opinion. If we can create the necessary public attitude, the law will follow.

We conceive that this is a job in which work along the principles of mental hygiene can be of help; a receptive public attitude is largely a matter of public mental health. We believe many persons who now think a venereal disease serves the dirty fellow right can be convinced otherwise by the presentation of these facts: (1) It seems possible that years of suffering,

*The American Social Hygiene Association Reports for 1944.

probably followed by an untimely or painful death, are excessive punishment. (2) Excessive or not, sin has not been eliminated by it. (3) The innocent, possibly in equal number to the sinners, suffer with the guilty. (4) The nation as a whole suffers through a costly drain on public health. (5) Medical science is now adequate to deal with this situation. (6) Our structure of morals should stand by itself on its merits, not depend for maintenance on the fear caused by the ravages of preventable disease.

For those unconvinced by these and other facts, there are less direct methods by which some part of the truth can eventually be made to prevail. The psychiatrist, much of whose professional work is the endeavor to eliminate irrationalities and inappropriate emotions in the individual, should be of use here in the framing of any program designed to have a similar influence on the public mind. We believe he would be delighted to cooperate with the public health authorities in any endeavor to do so.

BOOK REVIEWS

They Walk in Darkness. By ELLEN C. PHILTINE. 388 pages. Cloth. Liveright Publishing Corporation. New York. 1945. Price $2.50.

This book is advertised as a powerful psychological novel. The advertisement on the dust cover states "This gripping novel by the wife of a well-known psychiatrist tells the intimate story of a State Insane Asylum . . . written by a woman who had the courage of choosing a daring, shocking theme, and transformed it into a stirring, human story that will touch your very heart."

With that purpose in mind the author has neglected no opportunity to prejudice the reader against the mental hospital which the book allegedly portrays. With the very first paragraph the theme is introduced with the arrival of Peter and his wife, Elizabeth, at the Farland State Hospital, "An insane asylum regardless of what name Peter and the other doctors choose to call it." Great pains are taken to represent the location on the shore of Long Island, as dreary and uninviting upon their arrival in the rain at 10 o'clock at night to begin life in a new and strange institution still under construction and far from complete.

Much emphasis is laid upon the fog, the swirling mist, the darkness. But few lights were visible on the grounds and "the hostile fog surrounded the car like a wall. Only here and there through rare partings in the mist, she could identify monstrously magnified trees, trees like gigantic gorillas with forearms drooping in menace. There came the repellant odor of rotting tree roots and gasping water-logged shrubs and plants." The same depressing trend runs through all descriptions and references to the institution. There are occasional references to the "stench" coming from the wards, the shortage of necessary supplies, the poor quality of the food and the large numbers of patients in restraint.

The descriptions of the members of the medical staff and the steward's department are not those of real persons but are caricatures. Practically all of the physicians are represented as having failed to support themselves in private practice, as having but little interest in the treatment of patients. Except for an occasional brief view of the occupational therapy department, the activities of the hospital for amusement and recreation—which are well known—are not mentioned. References to the medical staff and the staff quarters are principally to matters of petty gossip, eavesdropping, tale-bearing and bickering among the physicians themselves and their wives.

The foregoing relates to the first half of the book. In the second part, where the scene is still the Farland State Hospital, the interest turns upon the assistant physician, Peter, and his wife. Their misunderstandings, quarrels, jealousies and mutual threats of separation and divorce fill over 200 pages.

We have had many books on the general topic of the state mental hospital since "The Mind That Found Itself" created international interest more than three decades ago. The experiences of Clifford Beers were written into a book which has become a classic—not so with the majority of his imitators.

Ellen C. Philtine, if she lived in the staff quarters of a state hospital, could not have mingled with the life of the institution, could not have become acquainted with the patients as a group. Had she done so, she could have introduced characters from among the patients who would have been more human than the few whom she attempts to depict only briefly. She could have added pathos and humor to lighten the gloom of her narrative had she so wished, but such treatment was evidently not the purpose of the book. It has been a long time since a book so unpleasant and so devoid of human interest has appeared.

There are some things about it which may be commended, but they concern only the craftsmanship. The author must have had technical training in writing fiction. Now that she has separated herself from the distasteful environment of a mental hospital, it is to be hoped that she will produce something more illuminating and more within the range of her understanding than this narrative.

Synopsis of Neuropsychiatry. By LOWELL S. SELLING, Sc.M., M. D., Ph.D., Dr. P. H. 500 pages. Cloth. The C. V. Mosby Company. St. Louis. 1944. Price $5.00.

This small volume is more of a book than it would appear at first sight. There are 500 pages, including the index. Yet it might be described as pocket size if one has an overcoat pocket in mind. The author is the director of the psychopathic clinic, Recorder's Court, Detroit, Mich., associate attending neuropsychiatrist at Eloise Hospital and Harper Hospital. The book is gotten up in the best style characteristic of the Mosby Company; although the type is rather small, it is readable.

The author states that it is intended to serve as a quick guide for diagnosis and treatment, to provide a background for intense review, and for these purposes it is admirably suited. The book is divided into two parts; the first, consisting of nearly 300 pages, has to do with neurology. The syndrome or disease is treated in a systematic way, and, while it is done briefly,

the essential points are covered. Take, for example, the deficiency disease, beriberi. Under this subject are given the definition, etiology, pathology, symptoms (early and later), differential diagnosis, military approach, medicolegal implications, prognosis and treatment—all in less than two pages. Hardly anything is omitted that one could think of as included in the term *neurology,* albeit briefly presented.

In covering such a wide field as briefly as possible the author has not been able to avoid the pitfall inherent in condensed presentations of being definitely dogmatic. An example of the danger to clarity in over-condensation is found on page 300: In defining the word *delusion* the book would lead the student reader to believe that there were only two types, the grandiose and the persecutory. "In the former the individual believes himself to be some important monarch or ruler while in the latter the patient is bothered with ideas that someone is plotting to kill him." The student would not realize from this definition that delusions are infinite in their scope and formulation. This example is not intended to characterize the definitions generally. On the contrary, most of them are excellent. So much is this true that the example just given stands out conspicuously. The reviewer recognizes that in attempting condensation of mental and emotional manifestations, it is almost impossible to do justice to the topic. The case is different in that portion of the book devoted to neurology. There, it is easier to omit the less essential points in a disease or syndrome without misleading the reader.

One good feature about this book is that hardly anything is omitted which the student might wish to refer to. The author's treatment of the convulsive group of disorders has been well prepared and is quite up to date. For the student preparing for an examination such as that of the American Board of Psychiatry and Neurology, or other comprehensive examinations, this book will be found to be useful. Also it will serve a practical purpose as a desk compendium.

Crime and the Human Mind. By DAVID ABRAHAMSEN, M. D. Foreword by Nolan D. C. Lewis, M. D. 244 pages. Cloth. Columbia University Press. New York. 1944. Price $3.00.

Dr. Abrahamsen has had wide experience in criminology, not only in his native Norway, where he served as psychiatrist to the Oslo department of justice, but also in this country following the German invasion of Norway. In 1941, he was appointed psychiatrist to the Illinois State Penitentiary. The following year, he lectured in psychiatric criminology at the postgraduate courses of the New York State Psychiatric Institute and Columbia University. The present volume is based upon these lectures. He has also

served as psychiatrist at Bellevue Hospital and at the psychiatric clinic, Court of General Sessions, New York City.

The first attempt to classify criminals scientifically was by Cesare Lombroso in 1876 when he stated the criminal behaved as he did because of the correlation between his bodily form and his criminal career. His data were proved inaccurate but gained prominence and obscured the fact that Lombroso recognized three other classes than the congenital; the insane criminal, the criminal by passion and the occasional or accidental criminal. Ferri, in 1884, stressed the sociological elements in crime and proposed preventive measures such as excluding juveniles from the courts, better education and better home conditions. Garofalo, later, regarded crime from the psychological rather than the anatomical or sociological viewpoint.

Dr. Abrahamsen would classify offenders as momentary, a person who commits a crime just once or twice and then only under certain circumstances; chronic offenders; neurotic and compulsory offenders; offenders with neurotic characters who show the trait of aggression; offenders with faulty development of the super-ego who have a definite criminal pattern and so commit crime as a profession. These are incorrigible and the most dangerous of the individuals against society.

It is the author's opinion that criminal behavior is complex, and that research should be developed along the lines of etiology and philosophy. The etiology is many-sided but principally related to man, his environment or both, in other words psychiatric criminology, biological criminology or sociological criminology. The philosophy of crime, Dr. Abrahamsen divides into three subdivisions, penology, science of prisons, and statistics of crime. Our acts correspond to our whole personalities because they are attempts to adapt personality to the prevailing situation. so that an antisocial act represents attempts of the personality to adapt itself. To a certain extent each offender selects his own type of crime.

The tendency to commit crime is a universal one, so that in one sense crime is an artificial thing created by law. A normal human being is able to control, at least within the extent of the law, his criminal tendencies. The term "criminal" is not, and should not be, used in psychiatric terminology, according to the author, as it implies that the individual is subject to imprisonment. It is the basic instability of three factors, criminalistic tendencies, mental resistance, and the situation that leads men into crime. The problem of crime is the problem of youth although many offenders begin their criminal careers late in life, a fact which may be more or less related to physiological changes. Investigations reveal that the "broken home" tends to act more as a risk than as a cause in delinquent

behavior, while bad companionship has been found responsible not only for the rise of a criminal career but also for its continuation.

Dr. Abrahamsen firmly believes that psychiatrists in all court cases should be appointed and paid by the State, such appointees to be approved by the American Psychiatric Association from those experienced in psychiatric criminology. In this way, experts would examine the defendant, put before the court their psychiatric-psychological study, and so give their opinion to the jury. The court could then instruct the jury that such findings are impartial evidence. At present, one expert may give an opinion which may be contradictory to that of another, with the result the jury is puzzled, and its members are forced to draw their own conclusions—and as such the jurymen become the experts.

The timely subject of juvenile delinquency is discussed in considerable length under the following headings: "Diagnosis and Treatment of Maladjusted Antisocial Children, and Juvenile Offenders; "Community Activities;" "Educational Methods" and "Correctional Methods." The first group includes those offenders so seriously abnormal they may have to be confined to institutions. Youthful offenders should be kept away from the adult offender. In the last group, are those cases in which criminal patterns are so ingrained as to require institutional care and treatment, but only after all other alternatives have failed. The author believes that if we know the abnormal mind of an offender, we may be able to redirect him to a normal state, although he admits there are the incorrigibles who must have institutional care. All types of therapy should be available for treating the offender with mental disorder—psychoanalysis, other psychotherapy and the various forms of "shock" therapy.

The text is well written by a person qualified to discuss the subject. The various problems are presented in a comprehensive manner and offer much information regarding the factors of crime and their solution. A bibliography of nine pages, including 214 references, concludes the work. The volume is heartily recommended and should stimulate much thought for those concerned in this interesting subject.

Social Work Yearbook 1945. Russell H. Kurtz, Editor. Eighth issue. 584 pages. Cloth. Russell Sage Foundation. New York. 1945. Price $3.25.

Just off the press, is the eighth volume of this series of biennial publications which are the most popular and widely used reference books in social work. It is of great value not only to social workers and students but also to others who are engaged in many professions and occupations which

come into contact with the social work field. This latter group includes those who "share responsibility with social workers for service to a common group of clients and those whose problems and objectives sharply impinge upon the area of social work practice and interest."

The book is prepared in encyclopedia form, reporting on activities in organized social work and related fields; and each volume is independent of the earlier volumes.

The material in this issue is arranged in two major divisions—Part One consists of a group of 75 signed articles, each written by an authority in his particular field, ranging from "Administration of Social Agencies" to "Youth Services" and including articles on "Medical Social Work," "Mental Hygiene," "Psychiatric Social Work," "Public Health," "Medical Care," "Maternal and Child Health," "Social Hygiene" and "Tuberculosis." Part Two consists of two directories of national agencies, governmental and voluntary, whose programs are integral with or related to the subject matter of Part One. There is also included a very extensive index.

The articles do not concern particular agencies, but rather are descriptive of the broad scope and function of the various types of organized activities and programs as they appeared in 1944; and they attempt to give a cross-section of the work done in the various fields. Each article contains cross references to other articles in Part One describing activities in the same or nearby fields and is followed by up-to-date lists of references on the subject discussed. These lists comprise a total of 1,132 separate books and pamphlets and 446 magazine articles—making this the most extensive and up-to-date published bibliography of social work.

Special emphasis is placed on important events occurring in the two-year period since the last volume appeared and particularly on those resulting from wartime developments. Among the new presentations are articles on "Foreign Relief and Rehabilitation," "Interracial and Intercultural Activities," "Consumer Protection," "Employment Services," "Postwar Employment," "Japanese-Americans," "Labor and Social Work," "Seamen's Services," "Servicemen and Veterans."

The editor envisions the audience of this book as including not only practitioners and students of social work but also "legislators and public administrators, publicists, reference librarians, teachers, agency board members, and other interested persons, whatever their connection with governmental or voluntary social work may be. To all of these, this volume is recommended as an excellent reference book.

Homicide Investigation: Practical Information for Coroners, Police Officers and Other Investigators. By LeMoyne Snyder, medicolegal director, Michigan State Police. Foreword by Oscar G. Olander, commissioner, Michigan State Police. With special chapters by Capt. Harold Mulbar, chief of identification bureau, Michigan State Police; Charles M. Wilson, director, Chicago Police Scientific Crime Detection Laboratory; and C. W. Muehlberger, director, Michigan Crime Detection Laboratory. 289 pages. 116 illustrations. Cloth. Charles G. Thomas. Springfield, Ill. 1944. Price $5.00.

For the past 10 years the author of this work has served in the Michigan State Police as medicolegal director, besides doing actual work in homicide investigations. In addition to his medical training, he is also a member of the American Bar Association.

A case of homicide is vividly described by the author in which those first on the scene, although conscientious and well meaning had so completely obliterated all possible clues and were so ambiguous in their statements, because of lack of proper methods of investigation, that the guilty person was never brought to justice. Similar incidents tempted the author to write a book on what-not-to-do when dealing with cases of homicide.

A plea for complete autopsy and possible X-ray examination is made in all cases where there is a suspicion of foul play, regardless of the actual condition of the body. The importance of several photographs of investigated cases taken from various angles is stressed, as an inadequate number from poor angles may be misleading and give an entirely different interpretation to the picture than the correct one. Of equal importance, in the author's opinion, is a sketch of the situation giving accurate measurements between one object and another.

The entire field of homicide investigation is covered with appropriate suggestions and illustrations, including homicide due to gunshot wounds, cutting and stabbing wounds, asphyxia, drowning, poisoning. Other subjects include direct violence, examination of bodies burned, examination for suspected sexual assault and for criminal abortion, and the effect and detection of alcohol.

Captain Mulbar provides a well-written chapter on the "Technique of Criminal Interrogation," including the use of the polygraph, with illustrative charts and photographs.

"The Preservation and Transportation of Firearms Evidence" is discussed in a chapter by Charles M. Wilson. Proper marking of bullets recovered from the body is stressed and illustrated by excellent photographs, while others demonstrate mutilation of rifling due to careless removal, thus

obscuring possible correlation between the fatal missile and the firearm.

A chapter on the "Investigation of Death Due to Highway Accidents" by Dr. Muehlberger gives numerous suggestions and photographs which should aid in the apprehension of many hit-and-run drivers.

Dr. Snyder states the purpose of the book is to make available to coroners, police officers or others whose duty it is to inquire into the nature of a homicide, tested plans of procedure to follow in adequately investigating such deaths. He has succeeded admirably in explaining simply and in the language of a layman how to proceed in such investigations; and he has also presented much practical information for the pathologist.

Conscience and Society. A study of the psychological prerequisites of Law and Order. By RANYARD WEST, M. D. (Lond.), D. Phil. (Oxon.). 261 pages with index. Cloth. Emerson Books, Inc. New York. 1945. Price $3.00.

This volume is an attempt to outline the conditions for a world-wide society of law, order and peace on the basis of understanding human nature as it is. Law, philosophy and psychology must be synthesized, thinks Dr. West, their contributions assembled and unified, their practitioners absorbing each other's thoughts, for the creation of a stable, unified, world social organization and world government.

Dr. West is a practising psychoanalyst. In "Conscience and Society," he lays down a viewpoint derived from dynamic psychology as to the principles on which this synthesis of scientific disciplines on the common basis of a genuine understanding of human nature can be brought about and as to the general considerations for the creation of a world society and government once this common general understanding has been achieved. The political philosophies of Hobbes, Locke and Rousseau are basic to most modern theories of the organization of society. Dr. West observes that each of these philosophers had his own peculiar concept of what man was in a "state of nature," that each built his political theories on his private concept, and that all three concepts were wrong. He feels that the theorists of international law from Grotius to Lord Cecil and the League of Nations have likewise failed to understand the fundamental facts of human mentality, of needs, aspirations, instincts, trends, unconscious forces, ways of thought, upon which world peace must be based. "In all matters of promise and loyalty," he observes, "Philip sober has to forge the gyves for Philip drunk. *The League of Nations has so far failed because its First Covenant did not provide the requisite machinery for utilizing the loyalty of its members by taking the execution of their promises out of their own hands.*"

Dr. West raises the question of what psychologists, who themselves need better understanding of political philosophy and international law, can contribute to sounder bases for world government. He reviews the theories of Freud and important dissidents from the Freudian school, relating their concepts to the factors underlying social organization in general. This is the central and major part of his book and forms the most important part of his contribution to the subject. Unfortunately, the discussion is muddled here by the author's exposition of his ambivalent attitude toward Freud and strictly Freudian theories. Freud made "brilliant" (p. 89) discoveries; he "had a flair amounting to genius for unravelling hidden stores of repressed hatred and sexuality" (l. c.); he "made monumental and unique contributions to knowledge" in the "unexplored field of research" into the obsessional neuroses (p. 72). But the author also infers his agreement with the familiar charge that psychoanalysts base conclusions about normal humanity on material largely derived from psychoneurotics (p. 63); he finds that, "in all cases" where Freud's "intuition was true for limited types of individual(s) but his findings were generalized to cover all humanity, . . . Freud tended to mislead" (p. 75); he infers that in studying Freud one must take care that Freudian theories do not "masquerade . . . as facts" (p. 70); and in his own brief discussion of Freud's work, he goes to the lengths of using Italics to distinguish the master's *inferences*" from his "findings" (l. c.). The innocent reader might readily conclude that the greater part of Freud's work consisted of inferences and that the greater part of these inferences were unsound. This impression would be strengthened by a note (p. 77) that Freud displayed "dogmatism about order in which he was . . . unjustified;" by repeated assertions that his "active imagination" led to seemingly doubtful conclusions (pp. 73 and 75); by the view that there was an "apparent disproportion"—obviously too great a proportion—of interest in sex in Freud personally (p. 74); by the statement that while Freud's discoveries were "brilliant" (p. 89, l. c.), they were also "limited" (l. c.); by the representation that Freud had a life of "bitter antagonism and quarrel" (p. 163); and by the expression "Freudian hatred" (p. 100) as descriptive of Freud's view of human society.

Dr. West scouts the existence of a death instinct or primary masochism and believes in the existence of another primary instinct which may be called the social instinct. He discusses the work of Jung and Ian Suttie, "unorthodox" analysts, with what seems to be admiration, and expresses general agreement with the views on Freud of Karen Horney. He introduces 12 summarized case histories and discusses some of them in detail to support his own point of view. His methods of expounding all this

would appear to many analysts to have a certain trend in common with a number of other ex-disciples of Freud, from Alfred Adler to Wilhelm Reich, who, before devising "character analysis" and "vegetotherapy" used to be a psychoanalyst himself. And for evidence that this trend is not inevitable and inescapable, one may cite the late Paul Schilder and others; Schilder found it possible to differ with Freud without notable public displays of bitterness and recrimination as a means of self-justification.

This has been discussed at length because the reviewer would be glad to know what on earth it has to do with the price of world peace or the organization of a world society. As far as he can see, it will serve admirably to confuse the general reader completely about the theories and practice of psychoanalysis and will probably leave him convinced that Freud was a nasty man and that no analyst knows what he is talking about, with possibly Dr. West included. One would think that there was very nearly enough insight in the psychiatric profession to permit privacy, or at least a certain reticence, in our quarreling, particularly when our quarrels are irrelevant and immaterial to the matter in hand.

This reviewer cannot see this particular quarrel as anything but utterly immaterial and irrelevant to the question of using psychodynamic principles in the cause of world peace. It would be material if Dr. West were proposing the individual psychoanalyses of the 2,000,000,000 or so of the world's peoples; but he is not; he seeks only such general understanding of psychological dynamics as is necessary for the foundation of a comparatively sound social superstructure. The theoretical differences in the analytic schools derived from the work of Freud are extremely important for deep psychotherapy and are extremely important for orientation in research. They are of importance also in evaluating or estimating the practicality of such phenomena as Marxian or individualistic economic structures. But they would seem to this reviewer at least to be of supreme unimportance in discussing the minimum of general psychological understanding which is essential for successful world organization.

On the more important factors of our psychodynamics and their general mode of operation, the workers in the various analytic schools—in contrast to bitter variance in theory—are not impossibly far from general, substantial agreement. Whether aggression is a primary instinct or a psychological defense, whether impulses toward friendship, affection or cooperation are inborn or acquired might seem questions of less practical importance to the architects of a possible world society than the facts that we know that such psychological components exist in every normal human being, that we know something of how they operate and that in the cases of many sick persons we have guided and controlled them for the individual's ben-

efit. The orthodox Freudian would agree with Dr. West that a warless and stable world is both desirable and theoretically possible and probably would not differ greatly with him, either in his general aim to found such a world on sound psychology, or in the methods and means he would choose for doing it—although he might have different concepts about just what was being done and different words to describe the process. The Freudian analyst might say, for instance, that he was seeking to provide more general "insight" into the "complexes" which hamper intellectual consideration of human actions; and, while he would not mean exactly the same thing, his methods might be virtually identical with those of Dr. West in trying to provide more "understanding" of the general psychological "misunderstandings" which prevent human beings from objective mentation about their own activities. The spot of common ground here surely offers broad enough and firm enough standing room for many Adlerites, Jungians, followers of the Horney "new ways" school, and perhaps some "vegetotherapists" and unreconstructed organicists as well.

Dr. West's thesis is most important. Even if we could build a world government and world society without a sound psychological basis, we could not expect them to stand permanently without one. One feels that his book might have had significance and importance if Dr. West had confined himself to pointing out the need for such a basis and indicating the pathway toward its achievement, instead of detouring to disclose the dirty details of a private psychiatric fight in a diatribe which will bewilder non-analysts and not convince a single Freudian analyst. There is no slightest intent to reflect on the motives or methods of Dr. West's book here; but it seems to this reviewer that we cannot expect to have much influence toward creating a sounder and more peace-loving society if we ourselves persist in displaying our own aggression publicly, if we widen and deepen our scientific disagreements with ill-tempered, public displays of personal differences, or if we create a Roman holiday by encouraging our own prejudices and paranoid trends to do battle royal all over the place.

Herman Melville. The Tragedy of Mind. By WILLIAM ELLERY SEDGWICK. 255 pages with index. Cloth. Harvard University Press. Cambridge, Mass. 1944. Price $3.00.

Herman Melville is surely of the company of the great—if only for the force of one vast creation he cast boldly against the sweep of the fathomless sky and the vastness of the eternal sea. There are great primitive epics in Norse and Anglo-Saxon to which we have some claim as masterpieces of our ancestral tongues. There are tremendous achievements in modern English in epic form from Milton to Hardy to Benét. But there

are many who feel that one must go far in the past, beyond modern and Elizabethan and Angle and Saxon, for the limitless stage, the primeval forces, the surging conflict of a world fit for gods and giants which lives in Melville's darkly powerful tale of man and beast, Captain Ahab who sailed to and fro upon the waters of the world and up and down upon them, in relentless and endless chase of the white leviathan, Moby Dick. For in the English prose of this tale, this tortured story out of the infancy of America's lusty young literature, there is something to evoke memories which are very old indeed, something of the "surge and thunder" of Homer's "Odyssey."

Melville, for many, perhaps too many, of us, is a writing man of might who composed, if not with Homer's mighty pen, with the ring of Homer's mighty verses in his ears. Or he is a man who went down to the sea in ships and thereupon told of "Typee," a record still unsurpassed of a hidden paradise of the Pacific, and of "Moby Dick," that far-flung epic of a sailor's paranoid pursuit through passing years and over strange seas of the great white whale who had inflicted irreparable injury.

But these things are not Melville. They are a part, perhaps the greatest part, but very far from all of a great and moody figure, a man of enormous and unresolved internal conflicts, a hungry spirit, a wanderer who is at once one with the vengeful whaling captain, the fearsome creature that he sought and the reflective Ishmael, at once the pursuer the pursued and the chronicler of the pursuit.

The manuscript of this volume on Herman Melville was found on William Ellery Sedgwick's desk when he died in 1942. It was complete except for cutting and editing, which was done by his wife "with the advice of Theodore Spencer." In it, Sedgwick interprets the development of the mind of Melville as he reads it chronologically from his works—from "Typee" in 1846 to "Billy Budd," written in 1891, the last year of the author's life and unpublished until 1924. Sedgwick sees the development of the mind he thus traces as a panorama, refusal in "Typee" to accept life in terms of the middle nineteenth century's "rigor mortis of standardization and gentility;" the tragedy of the unreconciled in "Moby Dick;" the recovery of "freedom and balance" in "Clarel," a little-read two-volume poem of a journey to Palestine; and final acceptance of and reconciliation with life in "Billy Budd," in which, as Sedgwick views it, "warmth and radiance" are "felt as more than equal compensation for the tragic necessities that human life is under." And Sedgwick refers to "Billy Budd" elsewhere as "as stark a tragedy as an American writer even to this day has ever penned."

Sedgwick, of course, was above all else a literary critic. His interest in the development of the tragedy of the human mind in Melville did not foreclose a primary interest in the literary evaluation of his achievement. He finds that Captain Ahab is "the one character in American literature whom one would dare name with Hamlet and Lear." Incidentally, he believes "we can assume it [the tragedy of Hamlet and of Lear] was the tragic drama of Shakespeare himself, as it is the tragic drama of Herman Melville that takes place in his books." As for Melville, he concludes that as Ahab is Lear, so Melville also is Lear. In scope and plan, Sedgwick discusses Melville's "Moby Dick," not only in terms of Shakespeare's tragedies, but in those of Dante's "Divine Comedy" as well. The intemperate admirers of Melville would appear to have good company.

Sedgwick's discussion of Melville makes many points of great interest to all who are fascinated by variations toward good or ill, normality or pathology, of the extraordinarily endowed human mind. There are evidence and inference, as well, for much more than is said, much material to provoke thought along his own lines for any student of dynamic psychology, for Melville was much more than an important literary figure whose mental and emotional development can be studied interestingly in his works. He was a figure whose life, one may hope, may some day command the attention of the psychoanalyst, as well as the literary critic and follower of what were once known as the humanities.

Practical Occupational Therapy for the Mentally and Nervously Ill. By Louis J. Haas, F. A. A., O. T. R. Illustrated. 432 pages. Cloth. The Bruce Publishing Company. Milwaukee. 1944. Price $6.00.

Mr. Haas is well known as the director of occupational therapy in the New York Hospital, Westchester Division, at White Plains. He has been a pioneer in many types of occupation for patients, and his workshops at White Plains have been a Mecca for therapists who would devise new and interesting activities in this field. The art metal work and jewelry displayed at a number of exhibits have attracted wide notice. In the use of otherwise waste materials, converting them into practical and beautiful objects, Mr. Haas has been a leader.

Anything by him on this subject is assured a good reception and wide reading. Though he has written extensively on the work in which he is engaged, this is the most ambitious piece of writing that has come from his pen. The more than 400 pages, amply indexed, decorated with numerous illustrations, plans and designs, make a book that should be in every occupational therapy workshop and institution library. The whole field is fully covered.

Inebriety, Social Integration, and Marriage. By SELDEN D. BACON, Ph.D. Memoirs of the Section on Alcohol Studies, Yale University, No. 2. 76 pages with tables and references. Paper. Quarterly Journal of Studies on Alcohol. New Haven. 1945. Price 75 cents.

This is a controlled study of the marital and social adjustments of 1,223 men and 31 women arrested for drunkenness in five large and three small towns in Connecticut during a five-week period in the early part of 1942—all of those arrested for this cause for whom marital status could be determined. The principal control groups were 181 male traffic offenders arrested during the same period, 492 men arrested on all other charges than traffic offenses and drunkenness, principally breach of the peace, and the urban population of Connecticut (1940 United States Census).

Dr. Bacon here presents a convincing statistical analysis which indicates a high degree of correlation among inebriety, unsatisfactory social adjustment and lack of satisfactory marriage relations. The conditions he finds resemble in general those which many psychiatrists have reported on the basis of clinical observation of both psychotic and nonpsychotic inebriates; and the conclusions support the modern psychiatric observation that inebriety and certain other personal and social maladjustments have a psychological basis or bases in common. They are a strong refutation of the belief frequently advanced by the nonmedical layman that alcoholism and failure in marriage have any cause and effect relationship, or vice versa; Dr. Bacon demonstrates rather clearly—also as the modern psychiatrist might expect—that the same factors which make for the one also make for the other.

This study includes a much closer scrutiny of behavior factors than is usual in such statistical reports; the author thinks that "in its quantitative description of the behavioral concomitants of different marital statuses [it] is almost unique." It is also, he thinks, almost unique in another respect: It is a piece of strictly sociological research. As the author notes, there has been almost no professional sociological work in the field of alcohol; such sociological data as have been presented on alcoholism in the past have usually been collected by workers in other disciplines, physiology or psychiatry for example; and these scientists, out of their fields, have produced few studies which Dr. Bacon would regard as satisfactory to a sociologist. We may note with satisfaction in passing that, among such papers, he considers Malzberg's study* of the marital status of persons with psy-

*Malzberg, B.: Marital status in relation to prevalence of mental disease. PSYCHIAT. QUART., 10:243-261, 1936.

choses, particularly with reference to the alcoholic psychoses, to be "the most careful, most satisfactory, and most useful of all those examined."

The author gives a number of warnings against making generalizations from his survey. He points out that the number of women considered is too small for reliable statistical conclusions; and the greater part of the work is devoted to his more than 1,200 inebriate men. In this connection, he warns against accepting the view that these are representative of all problem drinkers but notes that they are not of the police court habitué type, as they include large numbers released by the police without ever getting to court. He also notes the general derivation of his subjects from "lower middle-class positions or below," suggests that they represent "the public-nuisance drunkard" of "urban Connecticut in 1942," and specifically mentions the "absence of the wealthy and the socially élite." He says, however, that although he is not going into a lengthy dissertation as to the reasons, he believes comparisons of the arrested drunkards with the census classification of "all urban Connecticut males" is valid.

In Dr. Bacon's inebriate group, only 47 per cent were ever married against 80 per cent of all urban Connecticut males of the same age range; only 23 per cent were married and living with their wives against a normal expectancy of 73 per cent, and 25 per cent and 16 per cent respectively of the married inebriates were separated or divorced, against normal expectancies of 4 and 1.4 per cent. Socially, the study shows the inebriates move from place to place oftener than members of the control groups; have a larger percentage of unemployed, hold jobs for shorter periods; are underrepresented in professional and highly skilled jobs and overrepresented in the unskilled; are more poorly paid; are less well educated, with more records of incomplete school courses; and show vastly less participation in the social activities of visiting friends, attending clubs, dancing and going to the movies. Analysis of the inebriates by marital status shows, as might be anticipated, that the married men living with their families have records for greater participation and more success in these social relationships than their fellows.

That this book, a report of a careful research in another discipline, should appear to confirm statistically so many of the impressions of the clinical psychiatrist makes it of great interest and considerable value to the medical specialist. It points definitely toward the psychiatric conclusion that alcoholism is one of many symptoms of psychosocial or interpersonal maladjustment, with its origins in the individual's psychological and social history. It presents, from a field which is not generally accessible to the psychiatrist, and which he usually is not equipped to investigate, much material relevant both to etiology and treatment.

Correctional and Rehabilitation Work, Reformatory School, Lucknow. An Abbreviated Report (4th December, 1942, to 31st December, 1944). By LIEUT.-COLONEL A. H. SHAIKH, C. I. E., I. M. S. 24 pages (quarto). Paper. Lucknow, United Provinces, India. 1945. Price, Rupees 2. Four-page summary, price, Annas, 8.

This is an institution for the rehabilitation of adolescent delinquent boys which appears to be unique—at least this reviewer has never heard of a similar one, although the author refers to similar methods at the juvenile jail at Bareilly. Colonel Shaikh is inspector-general of prisons of the United Provinces and in charge of this school, which the prison department took over from the provinces' education department on December 4, 1942. This abbreviated report, "abbreviated" because of the shortage of paper, chiefly concerns the 107 boys the school handled from that time through last December. These include boys serving sentences of from one year to life, ranging in age from 15 to 23, all transferred from other jails, most of them lacking parental control, and all of them adjudged guilty of offenses ranging from theft and picking pockets to rape and murder.

The aims of this school are stated as being to: "give affection to the boys, and make them feel at home;" get them to engage in games, scouting, work and studies; and "use no force and no compulsion." Case histories are taken of all inmates, each has a medical examination by a doctor and an examination by a psychologist. The school gets them up in the morning at 5, puts them to bed at night at 8:30 and endeavors to keep them so busy in between that they get "no time for idling or idle talk" and the energy is being employed usefully which was "being wasted in phantasy." There is systematic training in five trades, a band for both vocational and recreational purposes, and a vegetable garden in charge of a man with some training, but without systematic classes as yet. The boys are not ordered into these activities; they choose which ones they desire; if they have no desire, the school sets to work to create it. Remarkably, considering the pressures of Indian society, there are no distinctions of caste or religious creed. Most of the boys are illiterate; all with the intellectual capacity to do so attend school. Group psychotherapy and individual psychotherapy are practised. Boys within the walls may earn money. Selected groups—and this is perhaps the most remarkable feature of the institution—are permitted to go "on their own" to a factory at some distance from the prison for daily employment outside. The aim is to see that each boy has 150 rupees "in cash and kind" with which to start life on release. As a further help on release, the school is starting a home in Lucknow for homeless discharged boys. Colonel Shaikh's report on followup work indicates that

this program has, on the whole, been remarkably successful. One hopes that when more paper is available there will be an adequate report—a book would seem warranted—on the details of operation of this project.

As it is, there are a number of matters of distinct medical interest in the brief report reviewed here. Endocrinologist and psychiatrist alike will take note, for example, of Colonel Shaikh's data which appear to indicate that it is not the tropical climate which brings on puberty at so early an age in India. Boys under the conditions of the Lucknow school appear to reach puberty very much later, and Colonel Shaikh is of the opinion that early puberty is caused by crowded living conditions in India, with families in such close quarters that children are introduced to all the details of sex in babyhood. And another point of interest to psychiatrists is the near disappearance of overt homosexuality, formerly reported as common among youth of the reformatory school type, under the present regime at Lucknow. A more detailed report on this might command the attention of both educators and penologists.

Interim Report of the Interdepartmental Committee on Delinquency. By a Committee Consisting of the Commissioners of the New York State Departments of Correction, Education, Mental Hygiene, Social Welfare, and the Chairman of the State Board of Parole. Part I, Preventing Juvenile Delinquency. 22 pages. Paper. Albany. 1944. Part II, The State's Rôle in Treating Delinquency. 73 pages. Mimeographed manuscript. Albany. 1945.

This report is the result of a study initiated by Governor Dewey of New York State in October of 1943. It was presented in December, 1944, and February, 1945, and the 1945 Legislature has already put some of its recommendations into effect.

Students of administrative government may observe that, like sunspots or cyclothymia, its history may often be expressed in cycles. An executive extends much latitude to his subordinates, gives them much authority and responsibility. A succeeding executive or two follows the same course, exercising less personal supervision than his predecessor who set the policy; his department heads exhibit growing independence and lessening cooperation. Eventually, a new executive finds undirected departmentalization has reached a point where not only is the right hand ignorant of what the left is doing, but the index and middle fingers of a single hand are similarly unsuccessful in coordination. The new executive starts getting his department heads together for a new period of planning in common, working in concert, and ending the conflicts of an assortment of programs aimed at cross-purposes. (One is aware that this process can go so far that some-

body finds it necessary in time to decentralize, encourage individualism and so start the whole cycle over again; but that is another—and not the present—story.) Without regard to politics, it is a matter of common knowledge that the present administration at Albany found the State departments pretty well going their own gaits and not always in the same direction or with common definitions of policy in interdepartmental matters. We are, therefore, at a stage of the cycle, perhaps the most fruitful stage of it, where ending conflicts, duplications and overlapping, and planning and working in cooperation for common good and public welfare are announced as official primary objectives.

The committee whose report is discussed here found that four State departments and an important division of a fifth, in addition to numerous local bodies, official and unofficial, ranging from New York City's Juvenile Aid Bureau and municipal police set-ups to the Boy and Girl Scouts and the parent-teacher associations, all have vital concern in the delinquency problem. The committee, besides, confronted the larger problems involving the legislative and judicial branches of the State government as well as the executive, since many—possibly most—aspects of the delinquency question concern other than administrative activities and functions.

Part I, the printed section of this interim report, confines itself to a discussion of the broad relationships among these numerous agencies and to the general question of setting up adequate coordinating and supervising machinery on both State and local levels. Part II deals with department facilities and procedures and with interdepartmental relationships as the committee found them and with the general changes and reorganizations which the members agreed upon.

It is important to note several matters about this report. A reviewer could hardly evaluate most of its specific recommendations without duplicating practically the whole study on which they were based—intimate personal acquaintance with and detailed information about the delinquency problem are necessarily too specialized. Second, it must be remembered that this report is necessarily a compromise, certainly with less drastically different points of view than those reconciled at Yalta, but, nevertheless, incorporating some ideas which cannot be precisely in accord with those of any single department, including that of Mental Hygiene. Third, it should be noted that the general tenor of the report is in accord with mental hygiene principles, that is, the emphasis is on prevention and treatment, in accord with modern ideals, rather than on detection and punishment. It is quite probable that the Departments of Education and Social Welfare

could maintain that these ideals represent their principles also, as no doubt they do; but prevention of social maladjustment through our child guidance program and treatment of the maladjusted with mental defects or psychopathology in hospitals and schools are the chief points of official contact by the Department of Mental Hygiene with the delinquency program. It is gratifying, therefore, to note the increased importance which the committee believes should be vested in the rôles of the psychiatrist and psychiatric worker in future activities to combat delinquency.

It is also gratifying to report that some more progressive recommendations of the committee have already been enacted into State law or provided for by executive order. For example, the amended law now permits much latitude in the transfer of inmates or patients among the institutions of the Mental Hygiene, Social Welfare and Correctional Departments, making it possible to move them from one department to another, thereby ending a situation in which an institution frequently was compelled, because of unsuitable sentence or certification, to retain an inmate of a type properly belonging in another.

This committee report is worth the close study of all who come in contact with the delinquency, or the difficulte child, problem. It also, it may be said, is worth the study of legislators, administrative officials and others who may be called upon in future to make similar studies and reports. It is a model in the compression of a vast amount of material into readable compass, in clear and logical arrangement and in conciseness—all rare qualities in government documents.

The Unknown Murderer. By Theodor Reik, Ph.D. Translated from the German by Dr. Katherine Jones. 260 pages, with notes and index. Cloth. Prentice-Hall, Inc. New York. 1945. Price $3.00.

Theodor Reik is one of the best-known early pupils of Freud and has long been recognized as one of the ablest and most authoritative workers and writers on psychoanalysis. In "The Unknown Murderer," the sixth of his 19 books to be translated into English, he presents sketches of the depth psychology of some of the principal characters in the drama of unsolved murder, the unknown murderer himself, the by-standers of his neighborhood group, his detectives, his judges and jurors. There are also the archaic psychological trappings of the play, forms and rituals surprisingly little changed through the centuries, reactions deep in the unconscious, common alike to primitive and highly sophisticated modern man—circum-

stantial evidence was once magical, it is now scientific, but the ways of collecting and weighing it are but little changed; the magic of the blackfellow in the Australian bush and criminological detection are not dissimilar in technique.

Perhaps because of the rising interest in delinquency since the outbreak of war, we have had a fast-growing collection of books and treatises dealing with the psychiatric—and in particular the analytic psychiatric—aspects of crime. There have been a number of books and articles analyzing the psychopathology of individual murderers and several illuminating individual and collective analytic studies of the psychodynamics of the psychopath, besides works which treat criminology in general from the dynamic psychologist's point of view, some of these intended as texts for students of law or psychiatry.

Dr. Reik's work does not fall into any one of these classes. It is neither an exhaustive study of the individual, nor a broad psychoanalytic consideration of the general subject of crime. It is rather an investigation into the psychology accompanying a particular set of circumstances. That psychology is often primitive. The burglar—as most detectives of metropolitan police forces can testify—defecates at the scene of his crime more often than most persons realize. He does so because of conscious and unconscious motivations which are modern, underworld survivals of dark, primitive beliefs and impulses; self-protective magic and ideas of atonement are some of the factors involved. The superstition that a murderer always returns to the scene of his crime is based on a large element of truth—many murderers do. Among unconscious motives which the psychoanalyst now recognizes for an act which usually appears utterly senseless are internal demands for self-punishment and the workings of an aggressive instinct or of aggressive impulses, turned toward self-destruction.

Death to many primitive men is always caused by violence, by the work of an enemy's black magic. The crocodile who drags to death the woman of a Congo tribe is not a real crocodile but a disguised magician; and her family seeks out and demands punishment of somebody who conceivably could have had a motive for wishing her dead. But in modern France a woman was sentenced to prison for life when her husband, with whom she had quarreled bitterly, and his brother were found dead in their home of a poison which could not be identified. It was eight years before she was released after the discovery that the deaths had been due to carbon monoxide seeping through the house walls from a neighboring lime kiln.

Reik touches on the psychopathology of judicial errors and of interpretation of circumstantial evidence, citing some famous European cases as

examples of the "terrible miscarriages of justice" which have resulted from misinterpretation of seemingly overwhelming masses of circumstance. The strictest logic in interpretation is valueless if there have been psychological factors operative in establishing faulty premises. Psychological evidence also may be highly misleading; the psychology or apparent psychology of the wholly innocent suspect may be entirely consistent with his blackest guilt. Reik thinks there is "little reason . . . for our judges to look down on their primitive predecessors, the magicians and the Schamans. . . . in the majority of cases the same motives [unconscious, of course] determine the judgment of the modern judge and that of the magician in the Australian bush." Specifically: "It is nonsense to brand all the judges, witnesses and experts in the Dreyfus case as idiots, scoundrels and fanatics, as is sometimes done. . . . Some of them must have revolted against seeing in a French officer, one of themselves, a traitor . . . If such a thing were possible there was the possibility that similar impulses lived in them, too. It was simpler to assume that the stranger, the Jew, had committed the fell deed. Clearly one aim of repression is to save pain . . ."

Reik declines to make specific forecasts but feels that great changes are bound to take place in penology as a result of the new insight gained from "the modern science of psychological processes, which shows that the concepts of guilt and innocence are inadequate." He thinks "our present cultural level may appear barbarous to future generations."

This volume touches lightly on many subjects which seem to have fascinating possibilities for further consideration. Reik likes Sherlock Holmes and thinks there are many similarities in method between Holmes' detection and psychoanalysis. In another venture into fiction, he selects a mystery story "of good average merit rather than one of outstanding worth," Van Dine's "Canary Murder Case," as a modern tale in which the voice of the dead—as in age-old superstition—accuses the murderer. Reik has documented this small work with 216 anthropological and legal references and notes of explanation and commentary. The text has a wealth of dramatic and readable illustration from police and court records and anthropological data—in which connection the Cabots and the Lowells will doubtless be fascinated to learn (p. 111) of the custom of "cross-examination of the dead in New England," where the relations are alleged to meet in front of the house of the deceased the night following the death while the priest magician calls on his spirit to tell who bewitched him. For this interesting information, Boston and environs are more likely indebted to the

printer than the translator, since one would expect a Dr. Katherine Jones to insist on including Wales, as well as England, in Britain. In this connection also, either the resetting of worn type or some improvement in press work would be welcome in later editions.

"The Unknown Murderer" is entirely comprehensible by the attorney or by the layman in both law and medicine who has a working knowledge of the general principles of psychoanalysis and legal procedure. Granting such general information, any mystery story addict should be fascinated by it. And the professional in either law or psychiatry might well find a place for it on the shelf for works related to his specialty but adapted for entertainment reading.

Experimental Basis for Neurotic Behavior. By W. Horsley Gantt, M. D. 211 pages. Cloth. Paul B. Hoeber, Inc. (Harper and Brothers). New York. 1944. Price $4.50.

This monograph is a report on experimental work done in the Pavlovian laboratory of the Phipps Psychiatric Clinic, inaugurated by Professor Adolf Meyer in 1929. Carrying further the classical experiments of Professor Ivan Petrovich Pavlov, Dr. Gantt investigated the emotional manifestations observable in dogs when subjected for long periods (in one dog for over 12 years) to such stimuli as fear, anxiety, deprivation, exposure—with and without contact—to a bitch during estrus, and many other artificially created situations with emotional concomitants.

Frustration is a common cause of neurotic behavior in human beings, and a painful one. Dogs exhibit comparable reactions which can be measured and estimated. When conditioned to such stimuli as have been described, neurotic behavior and reactions become chronic. The frontispiece of this volume is a portrait of one of the experimental subjects, Nick, the dog longest under observation. He shows in posture and facial expression both anxiety and depression with tension.

A number of psychoanalytic mechanisms which are still disputed may be seen as confirmed in the behavior of neurotic dogs. Among them, is the use of urine and feces in an aggressive way to express defiance or hostility.

Dr. Gantt lays no claim to finality with respect to his observations. He considers them tentative and subject to modification upon further experimentation and observation. He may surely be credited, however, with having done painstaking work over a long period and with having presented a scientific report which will guide and stimulate other laboratory studies.

Neurology of the Eye, Ear, Nose, and Throat. By E. A. SPIEGEL, M. D., and I. SOMMER, M. D. 690 pages, with 118 illustrations, bibliography and index. Cloth. Grune & Stratton, Inc. New York. 1944. Price $7.50.

In this book, a neurologist and an ophthalmologist-otolaryngologist have joined in preparing a volume which covers the field of neurology of the eye, ear, nose and throat. A single study of the areas of distribution of the cranial nerves, together with the pattern of the sense organs, is a practical idea which should have been thought of long ago. Concerning the authors, postgraduate students of the University of Vienna in the 1920's will remember Spiegel's lectures on neuroanatomy at the Physiological Laboratory, and will hear with pleasure that this book is now available.

The volume is divided into four main sections: "Part I. Neurology of the Ear," treats of it under the chapter headings, "The Organ of Hearing," "The Nonacoustic or Statokinetic Labyrinth," and "Lesions of the Nervous Ssystem Related to Aural Conditions." "Part II. Neurology of the Eye," covers "The Optic Pathways and Centers," "The Eye Fundus in Diseases of the Nervous System and the Ear," "Ocular Movements and Their Disturbances" "The Smooth Muscles of the Eye and of the Orbit," "The Common Sensory Nerve Supply of the Eye and Its Disturbances," and, as an appendix, "Cataract in Neuro-Endocrine Disorders," specifically tetany and dystrophia myotonica. "Part III. Neurology of the Nose, Mouth, Pharynx and Larynx" discusses "Disturbances of Innervation and Intracranial Complications" relating to these structures. "Part IV. Local Symptoms of the Brain Stem and the Cerebrum" takes up these questions under the general headings of "The Brain Stem" and "The Cerebral Cortex."

The neurologist will find in this volume full discussion of the examination of the sense organs and the pathology of their symptoms. He will take particular interest in the final section of the book, which treats of lesions of the central nervous system and will serve to orient the specialist for the correlation of local manifestations in specific organs with their origins in the brain.

That the authors are alert to the importance of a wide view of disease as embraced in the concept of psychosomatic medicine, the following excerpt reveals: "In dealing with a subjective phenomenon such as vertigo, the value of psychotherapeutic measures in addition to medical treatment should not be underestimated, even if a definite organic cause is demonstrable."

Other Publications Received

STRAIGHT TALK FOR DISABLED VETERANS. By Edna Yost, in collaboration with Dr. Lillian M Gilbreth. Public Affairs Pamphlet, No. 106. 30 pages. Paper. Public Affairs Committee. New York. 1945. Price 10 cents.

Edna Yost and Dr. Gilbreth were the authors of "Normal Lives for the Disabled," published by Macmillan last year. The present pamphlet is directed to the veteran who has lost fingers, an arm or a leg, or has suffered other crippling physical injury in the present war; and it is intended to "nail the big lie" that "the disabled must work at reduced wages or not at all." It is a recitation of facts about jobs and opportunities available for the war-crippled. As such, it is direct and simple psychotherapy for the physically handicapped, and it seems admirably adapted for this purpose indeed.

TWENTY-FOURTH BIENNIAL REPORT OF THE BOARD OF CONTROL OF STATE INSTITUTIONS, STATE OF IOWA, FOR THE PERIOD ENDING JUNE 30, 1944. 199 pages with index. Paper. Des Moines. 1944.

This biennial report is the consolidation of the reports for two-year periods of 15 Iowa state institutions, ranging from orphanages to prisons and state hospitals for the mentally ill and inebriates (who are accepted as patients in the Iowa mental institutions). New York administrative officers and directors, plagued by the wartime shortage of help and other limitations due to the conflict, will be interested in the similar difficulties reported by the Iowa institutions. Others will be interested in the organization and format of the report, which appears notable among documents of this type for conciseness in the presentation of all relevant data.

PROJECTION TECHNIQUES IN THE PUBLIC SCHOOL CURRICULUM. By Sarah Atherton. 16 pages. Paper. Published by Sarah Atherton Bridgman. South Norwalk, Conn. 1945.

This pamphlet is a very brief summary of a confidential report by Miss Atherton in 1943, covering the results of experimentation with projection techniques in public school eighth grades and providing data for psychiatric records for the use of school authorities. The schools covered were in New Canaan and Georgetown, Conn., and Brooklyn, N. Y., and, in each, results are reported to have been promising. Miss Atherton sets forth as the purpose "the hope of augmenting emotional security in adolescence;" and she appears to have derived data from her technique which ought to

have resulted in improved adjustments for numerous troubled pupils. She concludes that this sort of work is well worth while as a preventive measure in mental hygiene and suggests that medical school departments of psychiatry might well offer special short courses to train "especially gifted teachers, nurses or social service workers" in techniques of investigating unconscious emotional factors. This pamphlet summary devotes several pages to the Rorschach examination but, unfortunately, does not present a report as to the results of its administration, although a letter from Mayor LaGuardia of New York, reproduced in facsimile, indicates the author is critical of the method. She appears to have made principal use of freehand drawing on assigned subjects, with the pupils required to write their own comments on their art work, a point which suggests she might be interested in examining the possibilities of the graphic Rorschach, as an alternative to the original technique of psychodiagnostics. Miss Atherton does not give here the data by which a reader could evaluate her program. It is to be hoped that these will be available to those interested. This small pamphlet is of value chiefly in calling attention to her work; it seems well designed for that end.

NEWS AND COMMENT

DR. BIGELOW TRANSFERRED TO MARCY DIRECTORSHIP

Newton J. T. Bigelow, M. D., deputy commissioner of the New York State Department of Mental Hygiene, was transferred May 1 by Commissioner MacCurdy from director of Edgewood State Hospital to the directorship of Marcy State Hospital, which had been vacant since the retirement of the late William W. Wright, M. D. Dr. Bigelow had been officially on leave from the uncompleted Edgewood institution to serve as deputy commissioner; and he is now on similar leave status from Marcy, with George L. Warner, M. D., continuing as acting director of that hospital.

Dr. Bigelow is also chairman of the new State Salary Standardization Board, set up as a permanent agency by the last Legislature to succeed the temporary board which had been allocating civil service positions to appropriate salary grades since the extension of the Feld-Hamilton Law, and of which Dr. Bigelow was also a member. The permanent board, which has similar responsibilities in the allocation of new positions and the reallocation of old when adjustments are required, elected Dr. Bigelow chairman at its first meeting on June 12, 1945. Arthur M. Sullivan, M. D., of the medical staff of Harlem Valley State Hospital is also a member of the new board, as are also representatives of the division of the budget, the Civil Service Department and the Department of Unemployment Insurance. All members serve without pay.

SHIFTS MADE IN INSPECTION SERVICE

A number of changes in personnel in the medical inspection service of the Department of Mental Hygiene have been effected by Commissioner MacCurdy, with the designation of three new acting medical inspectors, Dr. Leland F. Hinsie, assistant director of the Psychiatric Institute and Hospital; and assistant directors Joseph H. Shuffleton, M. D., and Walter M. Pamphilon, M. D., of Kings Park and Willard, respectively. Dr. Hinsie is serving on part-time duty in the New York City office. Three acting medical inspectors during the previous year have returned to their hospital duties, Drs. William M. Grover, Claude R. Young and Joseph L. Camp, as assistant directors at Hudson River, Binghamton and Letchworth Village.

DR. HOSKINS TO DELIVER SALMON MEMORIAL LECTURES

Dr. Roy Hoskins of Worcester (Mass.) State Hospital, who is widely known as a writer and authority on endocrinology, physiology and psychiatry, will deliver the 1945 Salmon Memorial Lectures at the New York Academy of Medicine on November 2, 9 and 16, it has been announced by Dr. C. C. Burlingame, chairman of the committee in charge. Dr. Hoskins has been active in research for many years, serving as director of the Memorial Foundation for Neuro-Endocrine Research in Boston, research associate in physiology at Harvard Medical School, and director of research at Worcester State Hospital, besides being editor-in-chief of the "Journal of Endocrinology." His lecture subject will be "The Biology of Schizophrenia."

In another memorial lecture, the first of a new series, Dr. Edward A. Strecker, professor of psychiatry at the University of Pennsylvania Medical School and consultant to the army, navy and army air force medical services, spoke on "Psychiatry Speaks for Democracy" in the first Menas S. Gregory Memorial Lecture at the New York University College of Medicine in New York City on April 27, 1945.

BIMONTHLY AND INTERHOSPITAL CONFERENCES HELD

A bimonthly conference of the New York State Department of Mental Hygiene, for the discussion of both scientific and administrative matters, was conducted at Pilgrim, Central Islip and Kings Park State Hospitals from June 25 to 27, 1945; and the annual interhospital conferences for scientific presentations only were held at the New York State Psychiatric Institute and Hospital in New York City on April 23 and 24, and at the Syracuse Psychopathic Hospital on April 30 and May 1.

A feature of the bimonthly conference was a number of joint meetings with the dentists in charge of the Department's various institutions. There were several scientific sessions, with guest speakers, and a number of group meetings addressed by outside authorities in their fields.

The New York interhospital conference for the "down-State" Mental Hygiene institutions was devoted to neurology and psychiatry, while the Syracuse program for the "up-State" institutions featured discussion of pathology and of tropical medicine. Problems of psychosomatic medicine were also taken up at Syracuse.

Annual conferences for social workers of the Department were held on the same dates as the interhospital conferences at the Psychiatric Institute and Washington Heights Health Center in New York City and at the Syracuse Psychopathic Hospital. Rehabilitation problems in connection with returning veterans were among the discussion topics at both meetings.

FEDERAL SERVICE HAS NEW MENTAL HYGIENE DIRECTOR

Dr. Robert H. Felix, who has specialized for some years in neurology, psychiatry and mental hygiene as a member of the United States Public Health Service, has been named by Surgeon General Thomas Parran as medical director of the mental hygiene division in the bureau of medical services. He succeeds Dr. Lawrence Kolb, who has retired.

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DR. MAX WINSOR, CHILD PSYCHIATRIST, DIES AT 47

Max Winsor, M. D., who established the first clinic for psychiatric treatment in the New York City Children's Court, died on May 4, 1945, in New York City at the age of 47. Dr. Winsor had been active in child psychiatry and social psychiatry for years. He instituted a program in which the Neurological Institute and the New York State Training School for Boys at Warwick cooperated from 1932 through 1935, and he had been with the bureau of child guidance of the New York City Board of Education since 1938.

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WESTERN STATE HOSPITAL NAME IS CHANGED

The Pennsylvania Legislature has changed the name of the Western State Psychiatric Hospital in Pittsburgh to the Western State Psychiatric Institute and Clinic. The change, according to Dr. Grosvenor B. Pearson, director, had been long under consideration and was decided upon to emphase the institution's training, teaching and research facilities, as well as the operation of its mental health clinic. The Institute and Clinic now gives special courses in cooperation with the University of Pittsburgh, in addition to senior and junior residencies in psychiatry, the latter offering opportunities for clinical work and teaching.